NEW EQUIPMENT DIGEST

A Penton Publication

October, 1961

Volume 26 — Number 10

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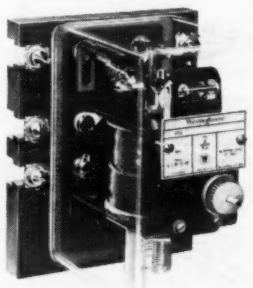
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 112

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

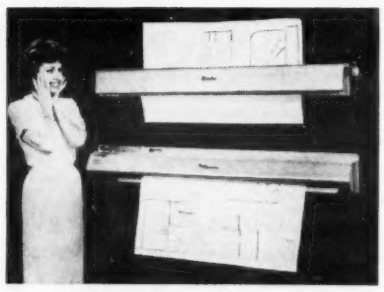
GENERAL PURPOSE RELAYS
glass-encased front-connected types



Types SC and SV front-connected relays enclosed in a gasketed small glass case can be used as fault detectors to supervise main protective relays, or to protect motors from high current or low voltage damage. SC and SC-1 relays can be used on direct-current and 25 to 60-cycle ac without coil change-over. Terminals are accessible from the front. Operating elements for SC, SC-1, SV, and SV-1 relays are instantaneous plungers which provide one-cycle operation at two times pickup on ac. Pickup is adjustable over the entire range and can be set for specific values of either pickup or dropout. Stationary silver contacts are reversible in the field. • **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

▲ For more details circle **NED-1 K1** on enclosed inquiry slip ▲

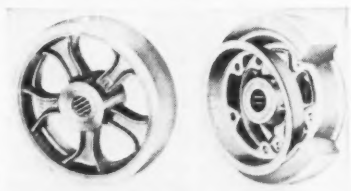
DIAZO PRINT DEVELOPER
heated roller speeds developing



Used as a companion to the Expeediter diazo whiteprinter, this Rotolite Thermomatic diazo print developer features a heated roller which speeds up the action of the ammonia developer. This completes development on black line prints and sepias at a rate of 48 ipm. Using both machines, sharp sepia and black prints, as well as standard blue and white prints can be turned out. The Thermomatic weighs 30 lb and mounts on the wall, as does the Expeediter. One filling of developer usually lasts all day All copies, including the first prints, can be run off at a cost of about 1 cent for letter size, or 1½ cents per square ft. Sizes for 18 to 42-in. paper widths are offered, and prices start at $129.50. • **Rotolite Sales Corp.**, Stirling, N. J.

▲ For more details circle **NED-2 K1** on enclosed inquiry slip ▲

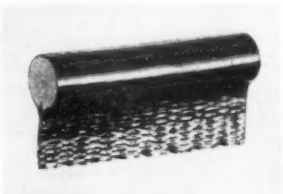
POLYURETHANE WHEELS
protect floors, have long life



Both demountable and vulcanized-on tire types are available in Bonduthane polyurethane caster wheels. They have high load carrying capacity, resist abrasion and compression, are easy rolling, afford long service life, and will not mar floors. Demountable type (right) is available in 6 and 8-in. diameters with keyed flange sections that eliminate shearing strain on locking bolts. Vulcanized-on wheels (left) are made in 4 to 10-in. diameters. • **Bond Foundry & Machine Co.**, 306 Penn St., Manheim, Pa.

▲ For more details circle **NED-3 K1** on enclosed inquiry slip ▲

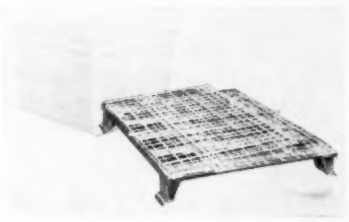
SEALING STRIP
has oilproof neoprene jacket



Produced by a process that includes a multiple dip of DuPont neoprene latex over which is applied a continuous film of polyurethane, improved Inner-Seal sealing strip is abrasion resistant and withstands high temperatures, water, oil, chemicals, and solvents. This high gloss strip has a sponge rubber and woven wire core. Free sample is available upon letterhead request. • **Bridgeport Fabrics, Inc.**, 165 Holland Ave., Bridgeport 9, Conn.

▲ For more details circle **NED-4 K1** on enclosed inquiry slip ▲

BULK MATERIAL CONTAINER
used for storage or transporting of dry bulk materials or liquids

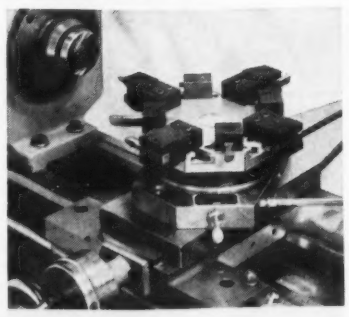


Safe working capacity of 2000 lb is claimed for the Sanitainer, a steel mesh container with a removable liner of molded polyethylene. Mesh exterior unit provides strength and a pallet base for simplified mechanized handling. When not in use, the exterior unit can be collapsed and the liner nested to minimize storage space requirements. Usable with or without the mesh frame, the liner affords resistance to industrial chemicals, most acids, and alkali solutions in handling of dry bulk materials and liquids. Liner has a temperature range from subzero to 185 or 205° F, depending upon polyethylene density, and may be steam cleaned.

Unit shown has a 48 x 41 x 40-in. mesh container with an underclearance of 4 in. for fork lift truck entry. Complete unit weighs 160 lb. Other sizes are available, as are caster equipped 24 x 24 x 38 and 24 x 20 x 32-in. sizes and 36 and 42-in. high cylindrical models with respective diameters of 18 and 19 in. • **Union Steel Products Co.**, 250 Chestnut St., Albion, Mich.

▲ For more details circle **NED-5 K1** on enclosed inquiry slip ▲

TURRET HEAD
for standard engine lathes



Machining time is minimized, difficult jobs simplified, and tooling time reduced with application of the Mag eight-station turret head to any make or size of standard engine lathe. Use of the air-lock turret converts the lathe into a versatile chucking machine with rigid tool mounting and repeat indexing within 0.000050 in. The tailstock is eliminated and the compound slide is replaced. Dovetail tool blocks with adjusting screw center tool are incorporated. • **Logan Engineering Co.**, 4901 W. Lawrence Ave., Chicago 30, Ill.

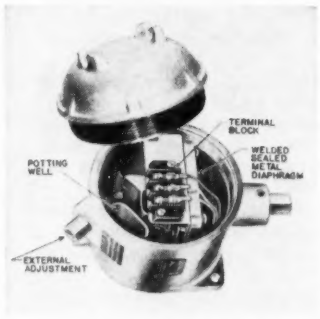
▲ For more details circle **NED-6 K1** on enclosed inquiry slip ▲

PORTABLE DRUM ROTATOR
handles drums weighing 500 lb

Improvements made in Model 200 Portable Drum Rotator enables it to agitate or mix the contents of 30 to 55-gal drums weighing up to 500 lb. Unit has been made more rigid. Idler reduction housing now has slotted brackets for chain adjustment. A chain guard is standard on the exposed sprocket for safe operation, and a reinforcer has been added to the safety nose piece for greater stability. Price remains at $279 with standard motor. Special motors are available. • **Morse Mfg. Co.**, 727 W. Manlius St., East Syracuse, N. Y.

▲ For more details circle **NED-7 K1** on enclosed inquiry slip ▲

PRESSURE SWITCHES
will actuate at 0.1 in. of mercury



Proof or test pressures up to 300 psi at settings to 150 psi are attainable with a line of explosionproof diaphragm pressure switches. They have a set and reset accuracy within ±½ per cent and are adjustable externally without exposing the circuit. In the low setting, switches will actuate at 0.1 in. of mercury with proof pressures to 10 psi. Standard pressure connection is ¼-in. NPT female pipe fitting. Single setting and dual control models are available. Housings are built with pottable electrical outlets and integral terminal blocks. Diaphragm capsules are removed without interfering with switch wiring, and may be interchanged for varying pressure requirements or fluid characteristics. • **Barksdale Valves**, 5125 Alcoa Ave., Los Angeles 58, Calif.

▲ For more details circle **NED-8 K1** on enclosed inquiry slip ▲

TRANSFER PUMP
air-powered unit handles 7 gpm

Fluids up to 90 weight gear oil are easily pumped from drums to other containers, or to points of use by the Little Squirt reciprocating air-powered transfer pump. Delivery is instantly adjustable from zero to 7 gpm and without hazard from explosion or sparks. Unit weighs only 2¼ lb and operates on as little as 15 psi air pressure, or on standard line pressures up to 150 psi. Universal bung mount adapts to either standard ¾-in. bung inlet, 1¼-in. inlet, and with an adapter, to a 2-in. inlet. Unit operates on any size or shape open container from a hand pail to a deep tank. • **Aro Equipment Corp.**, Industrial Div., Erie Street, Bryan, Ohio.

▲ For more details circle **NED-9 K1** on enclosed inquiry slip ▲

NOW NEW Slip Spindles ON ZAGAR HEADS for drilling, reaming, tapping

Spindle locations can be changed quickly, easily, on Zagar gearless heads. Rigidity is retained in a compact, low height head. Varying patterns can be economically machined with one head, adaptable to any standard drill press.

A minimum of spindle extension keeps head height down.

WRITE FOR BULLETIN N-5710

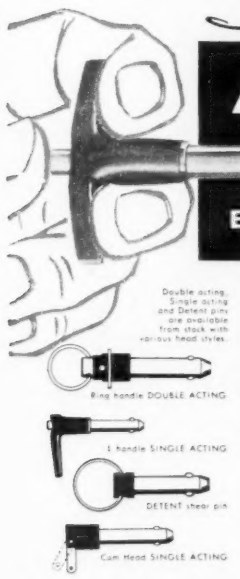
23880 LAKELAND BLVD. • CLEVELAND 23, OHIO

Zagar INCORPORATED

USE MORE SPINDLES TO DO MORE WORK

▲ For more details circle NED-10 K1 on enclosed inquiry slip ▲

to SECURE IT... to RELEASE IT Instantly!



AVDEL POSITIVE LOCKING QUICK RELEASE BALL-LOK PINS ®

Avdel positive locking, quick release pins are the most economical, dependable fasteners for quick assembly and disassembly for joining parts—with positive locking safety.

Avdel Ball-Lok pins are manufactured in several head types. Diameters are available from 3/16" to 3", grip lengths 1" to 6 ft. in various materials and finishes. All Avdel pins are manufactured to NAS standards.

Special pins can be engineered for unusual applications.

Write for application literature

AVDEL INC 210 SO. VICTORY BLVD., BURBANK, CALIF.

TORONTO, CANADA • HERTS, ENGLAND • GENEVA, SWITZERLAND

▲ For more details circle NED-11 K1 on enclosed inquiry slip ▲

BASES • MINUTE MAN ® KEYWAY BROACH KITS • SQUARE BROACHES

HEXAGONAL BROACHES • du MONT TOOL BITS • MINUTE MAN ® MAGNETIC

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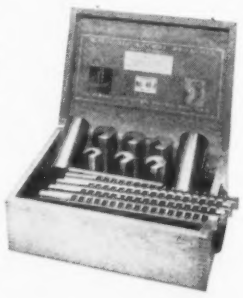
Before Minute Man® we had to set up big machine tools to cut keyways. No more. With the Minute Man Keyway Broach Kit, and an arbor press, we cut keyways by hand in one minute for as little as one cent a keyway. Any standard size from 1/16" to 1" in any bore from 1/4" to 3".

Special and stock square, round, hexagonal and Production Type Keyway Broaches will also save time and money. Send the coupon for complete details.



(A) SQUARE BROACHES 1/4" to 1" square holes

(B) HEXAGON BROACHES 1/8" to 1/4" hexagon holes

(C) ROUND BROACHES 1/4" to 1" round holes

(A)
(B)
(C)

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The duMont Corp., Greenfield, Mass.

MAIL FREE BROACH CATALOG AND PRICE LIST D describing Square Broaches, Hexagon Broaches, Production Type Keyway Broaches and Keyway Broach Kits to

Name.....

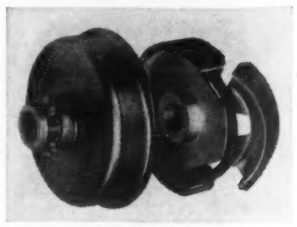
Company.....

Address.....

duMont

▲ For more details circle NED-12 K1 on enclosed inquiry slip ▲

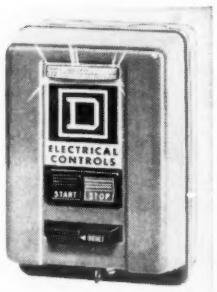
CENTRIFUGAL CLUTCH
for motors, four-cycle engines



Engaging smoothly under load at low rpm ranges, this 4-in. automatic centrifugal clutch has a close-to-engine sprocket to transmit maximum power with minimum stress. Clutch is designed for electric motors and four-cycle gasoline engines with chain and V-belt drives, and is chatterproof and fadeproof in operation. Automotive type bonded lining, replaceable parts, plating for corrosionproofing, and a flanged drum to dissipate heat are incorporated. An internal spring permits full-width friction contact around the entire circumference. Various pulleys, sprockets, and bore sizes are offered. Price is $14.95. • **Comet Industries**, 801 Elm Place, Richmond, Ind.

▲ For more details circle NED-13 K1 on enclosed inquiry slip ▲

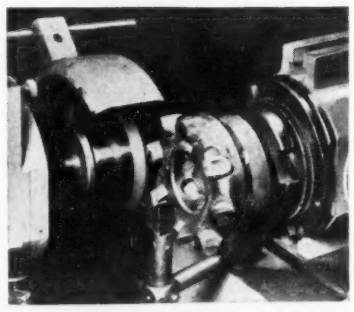
PILOT LIGHT KIT
field installed on Size 00 starter



Kit for field installation of a pilot light to a Size 00 starter in a general purpose enclosure contains socket and resistor assembly, lens and lens cover, neon bulb, power lead, and mounting instructions. The two-piece lens is snapped into the knockout provided in the enclosure cover. Socket and bulb assembly mounts to top coil terminal. Kit sells for $15. • **Square D Co.**, Dept. SA, 4041 N. Richards St., Milwaukee 12, Wis.

▲ For more details circle NED-14 K1 on enclosed inquiry slip ▲

DIAMOND GRINDING WHEEL
grinds carbide either wet or dry



All sizes and shapes are available in the B-56 diamond grinding wheel, made with a resinoid bond that enables one wheel to grind carbide either wet or dry. Tests indicate life increase of up to 30 per cent over previously available wheels, with finish and freeness of cut maintained. In general, the new bond does not require a change in wheel specification for doing the same operation as former wheels. • **Norton Co.**, Worcester 6, Mass.

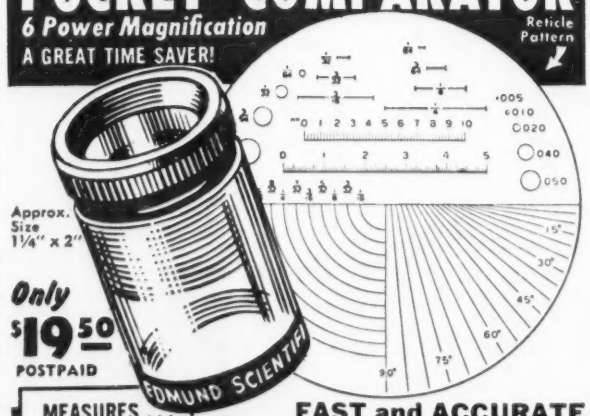
▲ For more details circle NED-15 K1 on enclosed inquiry slip ▲

CHECK, MEASURE, INSPECT with this HANDY

POCKET COMPARATOR

6 Power Magnification

A GREAT TIME SAVER!



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MEASURES ... ANGLES • RADII CIRCLES LINEAR DIMENSIONS in both decimal inches and mms.

FAST and ACCURATE

On Small Parts . . . Small Dimensions

Fine, imported measuring magnifier with real etched glass reticle—for on-the-spot checks of linear dimensions, angles, radii, diameters. Clear plastic cell admits light to object viewed. Focusing adjustment. Reticle easily removed for use as high-power magnifier. Instrument comes in protective leather case. We guarantee complete satisfaction or your money back. **Order Stock No. 30,061-AE .....$19.50 Postpaid**

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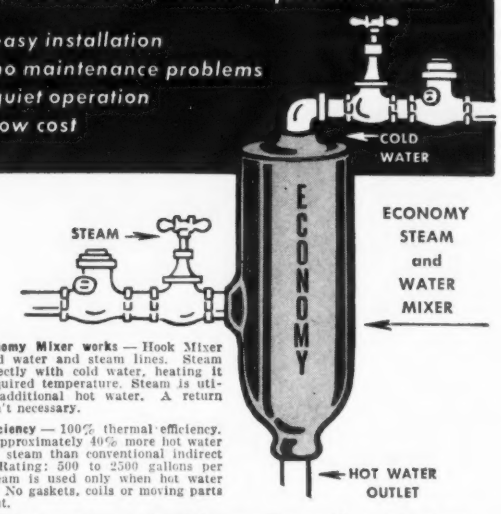
EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-16 K1 on enclosed inquiry slip ▲

INSTANT HOT WATER

with ECONOMY Steam Injection Heater

* easy installation
* no maintenance problems
* quiet operation
* low cost



How Economy Mixer works — Hook Mixer up to cold water and steam lines. Steam mixes directly with cold water, heating it to the required temperature. Steam is utilized as additional hot water. A return system isn't necessary.

High Efficiency — 100% thermal efficiency. Delivers approximately 40% more hot water per lb. of steam than conventional indirect heaters. Rating: 500 to 2500 gallons per hour. Steam is used only when hot water is drawn. No gaskets, coils or moving parts to wear out.

Available in stainless steel and bronze. Has a wide variety of uses. Write for literature and price data.

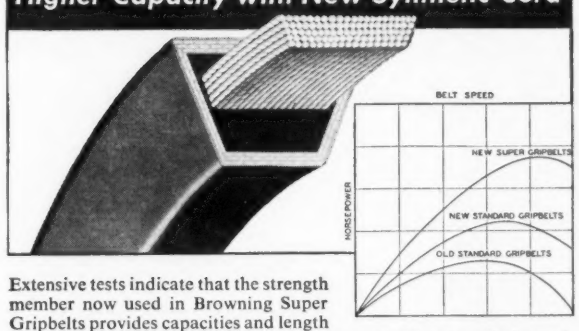
CONANT for over one hundred years

Conant Bros. Company, Inc.
427 Riverside Avenue
Medford 55, Mass.

▲ For more details circle NED-17 K1 on enclosed inquiry slip ▲

Browning SUPER GRIPBELTS

Higher Capacity with New Synthetic Cord



Extensive tests indicate that the strength member now used in Browning Super Gripbelts provides capacities and length stability far beyond those of any previous vegetable or synthetic cord. With other advances in materials and design, this high strength cord improves performance and obsoletes former ratings. Advantages:

- Capacities up to 2¼ times previous standard Gripbelts
- Narrower drives, fewer belts; more compact design, lighter weight
- Lower costs for both original equipment and maintenance
- Standard size sheaves and belts cover full hp range
- Available NOW from distributor stocks, coast to coast

Browning *Standard* Gripbelts have been increased in similar proportion, to today's realistic ratings as indicated in the chart. For information on both Standard and Super Gripbelts, ask your Browning distributor. Or write **Browning Manufacturing Company, Maysville, Kentucky.**

Browning . . . . OUR 75th YEAR

▲ For more details circle NED-18 K1 on enclosed inquiry slip ▲

for all your hose applications

ALL PURPOSE · LONG-LIFE · RESISTOFLEX

hose of FLUOROFLEX

- **Completely corrosion-resistant.**
- **Fluoroflex***, Resistoflex's proprietary Teflon product, is completely inert and non-aging.
- **Non-corroding jacket** of wire braid.
- **Rugged,** takes severe abuse, outlasts all other hose by far.
- **Bends to a short radius,** simplifying installation.
- **Absolutely leakproof,** will not leak at fittings.
- **Reliable,** safe, **economical** to use.
- **For handling** corrosive materials, or where non-contamination is a must.
- **Rated for pressures** up to 1000 psi, temperatures up to 500° F.

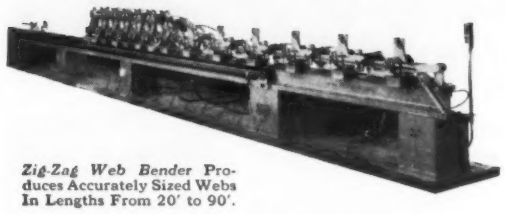
SEND FOR THE FACTS TODAY. Resistoflex Corp., Roseland, N. J., Anaheim, Calif., Dallas, Tex.

*Resistoflex T.M. †Dupont T.M.

RESISTOFLEX RELIABILITY

▲ For more details circle NED-19 K1 on enclosed inquiry slip ▲

NOW YOU CAN MAKE A ZIG-ZAG® WEB IN JUST 60 SECONDS*



Zig-Zag Web Bender Produces Accurately Sized Webs In Lengths From 20' to 90'.

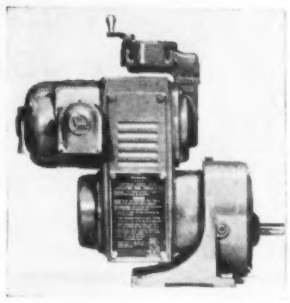
The Zig-Zag Web Bender obsoletes every other method of producing webs for joists by bending webbing faster and with greater accuracy.
One or two men can operate the Zig-Zag Web Bender and produce several times the output possible with old fashioned bending.
Depth, pitch and radius of bends are precise and consistent in their precision in every bend, resulting in fewer slow-ups on the welding line.
For complete technical details on the Zig-Zag Web Bender write to:

*10' Long—16" High—12" Pitch

National Bending Machinery Corp.
110 STATION STREET • JOHNSTOWN, PA.

▲ For more details circle NED-20 K1 on enclosed inquiry slip ▲

VARIABLE SPEED DRIVES have new reduction gear boxes



Series of single and double reduction gear boxes for fractional horsepower variable speed drives is offered with speed variations from 2:1 to 10:1. Drives are available in 1/4 to 3/4 hp. A 1/4-hp drive with 2:1 speed variation provides output speeds from 10 to 4660 rpm. Other sizes and speed variations provide similar output ranges. Drives are compact, light in weight, and incorporate lubrication-free pulleys which eliminate fret corrosion and pulley wear. • **Sterling Electric Motors, Inc.**, 5401 Telegraph Rd., Los Angeles 22, Calif.

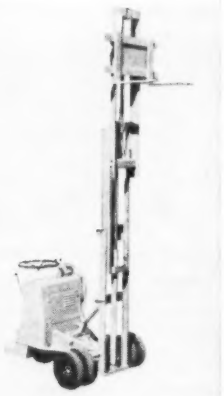
▲ For more details circle NED-23 K1 on enclosed inquiry slip ▲

ALUMINUM DATA TAGS embossed with pencil or ball pen

Fiberboard laminated between two layers of 0.003-in. Kaiser aluminum foil comprise this data tag which can be embossed with identifying data using a pencil or ball-point pen. Short lengths of wire supplied with the tags facilitate attaching to valves, pipelines, alloys, appliances, and many other items. Aluminum foil permits outdoor applications. • **Wittek Products Co.**, 14750 Keswick St., Van Nuys, Calif.

▲ For more details circle NED-24 K1 on enclosed inquiry slip ▲

FORK LIFT TRUCK now has a 10-ft 6-in. mast



Lifting capacity of the new 10-ft 6-in. high mast featured by Model S-10 Moto-Bug fork lift truck (*NED, Nov.* '58) is 750 lb at 15-in. load center. Mast consists of three sections which telescope down to 74 in. and reach maximum height in 15 sec. It tilts 10 degrees backward and 2 degrees forward. Truck will climb a 16 per cent grade with full load, and its forks are adjustable in width from 6 to 32 in. Gear type hydraulic pump which develops 2½ gpm at 900 rpm raises and lowers the mast through a double piston type valve with built-in relief. • **Kwik-Mix Co.**, 235 W. Grand Ave., Port Washington, Wis.

▲ For more details circle NED-25 K1 on enclosed inquiry slip ▲

MAKE WIRE SPECIALTIES?

Wisconsin Wire Works is *your Best Source* for COLD-DRAWN SINGLE-STRAND WIRE!

WE ARE SPECIALISTS in providing exactly what you need for every application . . . including your toughest specifications for custom-drawn wire!

If you manufacture springs, wire forms, woven and braided wire products, cotter pins, fine screws and the like, WISCONSIN offers top-flight facilities, know-how and technical assistance. Precision-drawn specialty wire from WISCONSIN costs no more than most commercial grades.

WISCONSIN draws specialty wire to consistently close tolerances in alloys of iron, nickel, chrome, copper.

WRITE TODAY, telling details of your problem. We'll give you the complete story and tell you why you should specify WISCONSIN on your next order!

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APPLETON, WISCONSIN

▲ For more details circle NED-27 K1 on enclosed inquiry slip ▲

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PNEUMATIC COUPLINGS OBSOLETE

YOU NEED THE
DYNA-CON

IT'S A COUPLING! IT'S A VALVE! AT THE PRICE OF A COUPLING ALONE!

HIGHEST CAPACITY . . . up to 30% higher! EASIEST TO CONNECT because it's also a valve! SAFEST BY FAR with the unique Twist Lock! MOST ECONOMICAL! Write for details.

dyna-quip

Since 1936
1825 MACKLIND AVE.
ST. LOUIS 10, MO.

▲ For more details circle NED-21 K1 on enclosed inquiry slip ▲

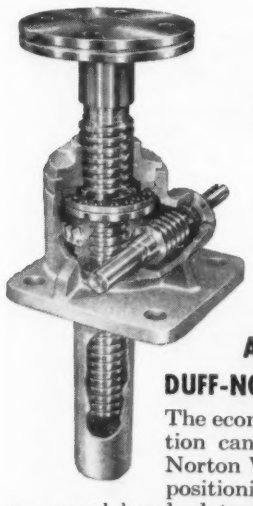
YOU CAN'T BUY MORE ACCURATE, LOWER-COST TRANSISTORIZED GAGES THAN TECHNI-RITE!

This dynamic new line of completely transistorized gages gives you two-millionths accuracy at unbelievable prices! Included are interchangeable gage heads and amplifiers for surface plate and height gage work, and bench inspection . . . surface finish gage, ultra-sensitive comparator for metrology use, cylindrical grinder control and transducer calibrator. Smaller, lighter, more versatile and dependable . . . Techni-Rite units are available off the shelf in 110 v AC or self-contained battery models. **Priced as low as $275. for a complete gaging system! Write for further information and prices.**

techni-rite
An Important New Name in Gaging and Recording

TECHNI-RITE ELECTRONICS, INC. 57 Centerville Road, Warwick, R. I. • REgent 7-2000 • TWX WRWK 266
A few select representative territories are still available

▲ For more details circle NED-22 K1 on enclosed inquiry slip ▲



New Economy for Machinery Designers

A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

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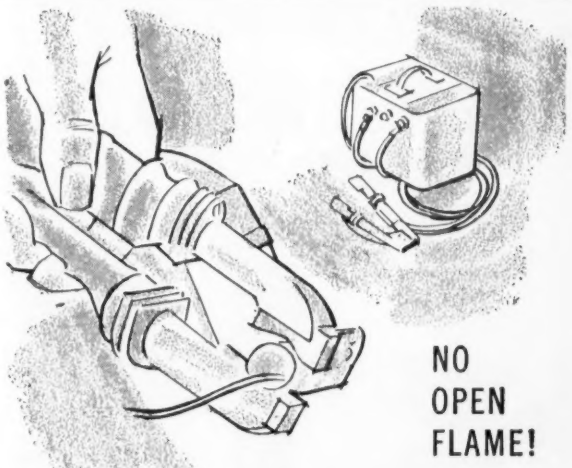

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fastest! most reliable!

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IDEAL THERMO-GRIP®
RESISTANCE SOLDERING SETS

Instant resistance heat concentrated at point of contact joins parts in seconds. *Work piece heats first*, melts solder, positively prevents cold-flow joints. No pre-heating — no burning of nearby parts. . . . Heat is controlled by thumb-switch. Low voltage and completely insulated parts eliminate accidental shock . . . Compact, rugged units draw current only when in use — cut power costs. Universal application: production, maintenance or repair, in electrical, metalworking, plumbing, heating, air-conditioning and general industry . . . Proved in hundreds of plants to increase output, cut costs, insure better soldering.

5 MODELS . . . 450 to 7500 watts. Plier, fork, pencil attachments with replaceable electrodes and other accessories. Sizes, models and powers for all needs.

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Please send catalog on Ideal Thermo-Grip sets.

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COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

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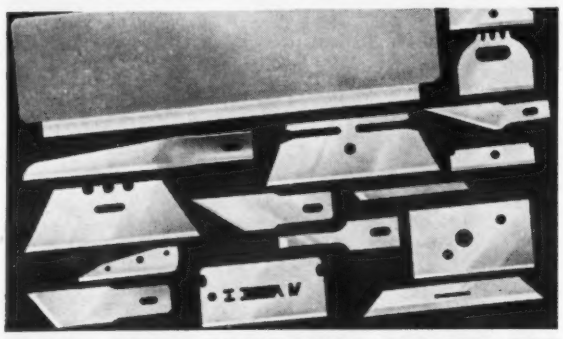

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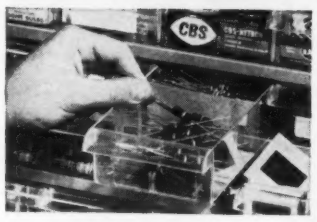

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175 different stock models with from 6 to 128 drawers, or we can construct to your specific needs.

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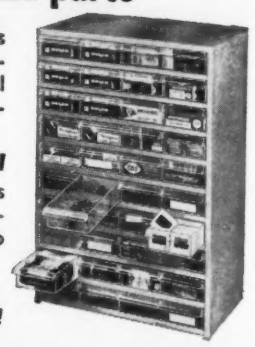

A-M

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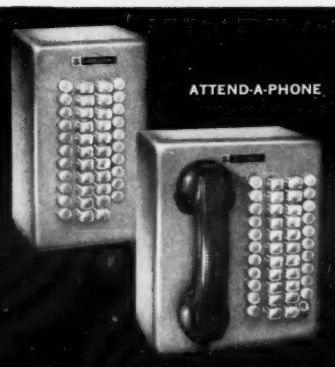

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For free data sheets on Hamilton Gages, write to Dept. 2510, Hamilton Watch Co., Lancaster, Pa. Or, if you have a special gaging problem, write to E. P. Barber, Director of Industrial Products Div.

Kwik-Chek Gages—another precision product of the
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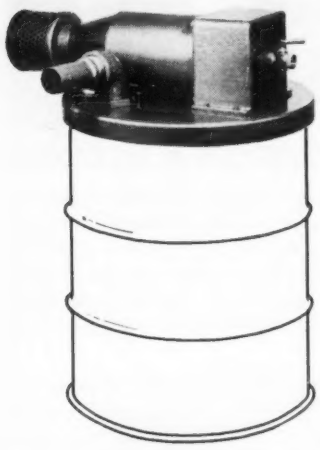
AIR-POWERED HEAVY DUTY INDUSTRIAL

VACUUM CLEANER COVER

ASSEMBLY FITS 30, 55-GAL DRUMS



Gives high volume pick-up, wet or dry

The NORTHEAST AIR-POWERED VACUUM operates on compressed air, thus requires no electricity and has no moving parts. Vacuums of up to 16" HG are created by a simple venturi system. Designed specifically for heavy industrial cleaning and material handling, these units will pick up sand at the rate of 5000 lbs. per hour, and liquids at the rate of 6000 G.P.H.

Write for literature

NORTHEAST INDUSTRIES, INC.

Midland Park, N. J.

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POWER from NICAD NICKEL CADMIUM Rechargeable Batteries

DESIGNED FOR

- **Low Maintenance Cost**
- **Instant Efficient Operation**
- **Durability**

SEALED CELLS

VENTED CELLS

NICAD Sealed and Vented Cells make practical the battery operation of many types of equipment not previously suited to dry, mercury, or lead acid types. Capable of sustained or stable voltage over a wide temperature range these NICAD Cells have extremely long life, require little or no maintenance, and are always ready to operate in any position under even the most adverse operating conditions . . . with POWER to spare.

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GOULD-NATIONAL BATTERIES, INC. E-1400 First National Bank Bldg., St. Paul 1, Minn.

NICAD is a trademark of Gould-National Batteries, Inc.

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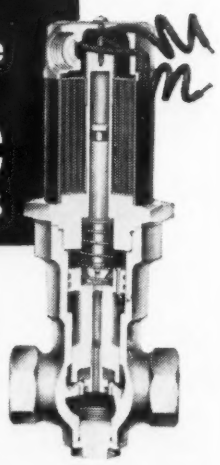
for a long life of dependable, trouble-free service, *specify*

ATKOMATIC SOLENOID VALVES



Available in bronze and stainless steel for pressures from zero to 10,000 psi . . . temperatures from minus 350°F to plus 500°F . . . pipe sizes from 1/8" to 3" . . . for corrosive and non-corrosive gases, liquids and vapors.

More than 20 years of engineering experience and manufacturing skill go into the construction of each ATKOMATIC Solenoid Valve. Before shipment, valves are factory-tested on special flow lines *under actual operating conditions* to insure functional integrity and long, maintenance-free service. Experience and skill . . . combined with exacting quality control . . . give you a lifetime of safe, reliable, *low-cost* operation.

Atkomatic VALVE COMPANY, Inc.

545 WEST ABBOTT STREET
INDIANAPOLIS 25, INDIANA

write for Atkomatic Catalog no. 444

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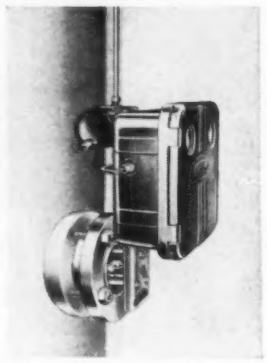
LIQUID LEVEL TRANSMITTER used with corrosive, viscous fluids



Precalibrated for supply pressures between 18 and 40 psi, the Type 115C liquid level transmitter is available with 3 and 4-in. flanged connections. It is suited for use with corrosive or viscous fluids. Wizard controllers can also be mounted on the transmitter to convert the output to a standard pneumatic signal for use with a recorder or control valve. Built-in cleanout wire is provided to remove foreign particles that could clog the transmitter orifice. • **Fisher Governor Co.**, Box 307, Marshalltown, Iowa.

For more details circle **NED-37 K1** on enclosed inquiry slip

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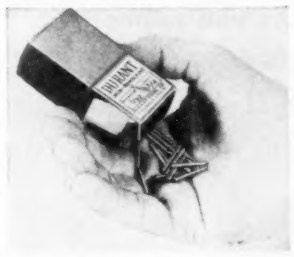
MINIATURE DOWEL PINS 1/16, 3/32, and 1/8-in. sizes



Small diameter dowel pins added to company's line feature surface hardness of 62-64 Rockwell C. Diameters of 1/16, 3/32, and 1/8 in. are offered in 35 lengths. Mini-Dowel pins are precision ground and honed to fine surface finish to eliminate pick-up. High uniformity is assured. • **Durant Tool Co.**, 17 Thurbers Ave., Providence 5, R. I.

For more details circle **NED-38 K1** on enclosed inquiry slip

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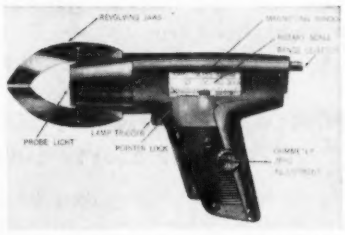
PISTOL TYPE VOLT-AMMETER measures in restricted space



One-hand operated Pistolmeter facilitates measuring current, voltage, and resistance, and the testing of circuits in areas where space is restricted. Revolving jaws at the muzzle-end can be inserted into cramped gutters and cable boxes at any convenient angle. Locking device on meter point enables reading to be taken after meter is removed from conductor. Color coded rotary scale has four current ranges of 0 to 15, 60, 200, and 600 amp; two voltage ranges of 0 to 150 and 600 v; and two ohmmeter ranges of 0 to 500 and 5000 ohms. Unit has a magnifying window, printed circuitry and rechargeable battery, and is furnished with test leads, battery charger, and a holster. **Federal Pacific Electric Co.**, 50 Paris St., Newark 1, N. J.

For more details circle **NED-39 K1** on enclosed inquiry slip

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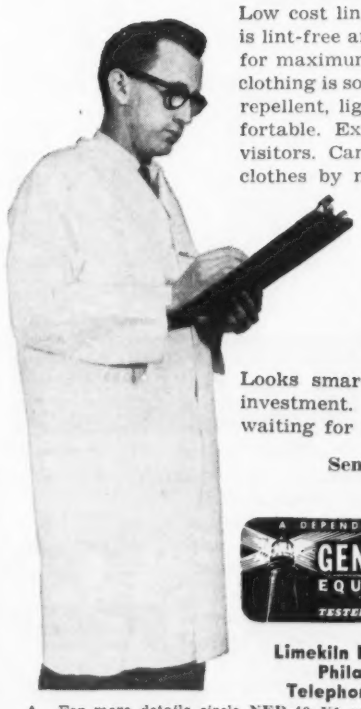
DISPOSABLE CLOTHING

Eliminates Laundry Costs



Low cost line of disposable clothing is lint-free and durably constructed for maximum wear resistance. The clothing is soft, fire-resistant, water repellent, light in weight and comfortable. Excellent, too, for plant visitors. Can be worn over street clothes by men or women.

AVAILABLE IN Shirts—Pants—Laboratory Coats—Hats—Boots—Aprons and Gowns.

Looks smart. Requires no capital investment. Eliminates cost and waiting for laundering.

Send for bulletin No. 700

A DEPENDABLE GUIDE TO SAFETY
GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

Limekiln Pike & Williams Ave.
Philadelphia 50, Pa.
Telephone Hancock 4-1550

For more details circle **NED-40 K1** on enclosed inquiry slip

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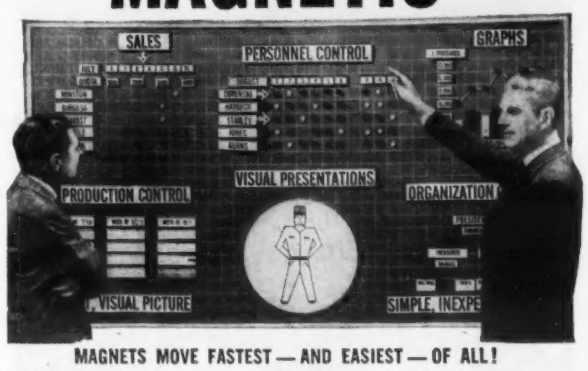
VISUAL **MAGNETIC** CONTROL



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- Sales
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- Scheduling
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- Charts—Graphs
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COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
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PRICE LIST & BROCHURE NE10 **FREE** ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

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"Lifetime" Dial Thermometers

You're always sure of accurate temperature readings with this easy-to-read Foxboro "Lifetime" Dial Thermometer. Welded "one-piece" bulb and connecting capillary tubing of 316 Stainless Steel prevent corrosion from liquids, fumes or vapors. Needs no protective tubing. Tightly sealed aluminum alloy case. Available in standard ranges to 1000°F. — dial sizes of 5" and 6", with 10" and 12" scales. Write for Bulletin 14-11. **The Foxboro Company**, 6610 **Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO Reg. U.S. Pat. Off. DIAL THERMOMETERS

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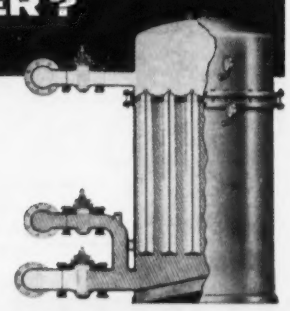
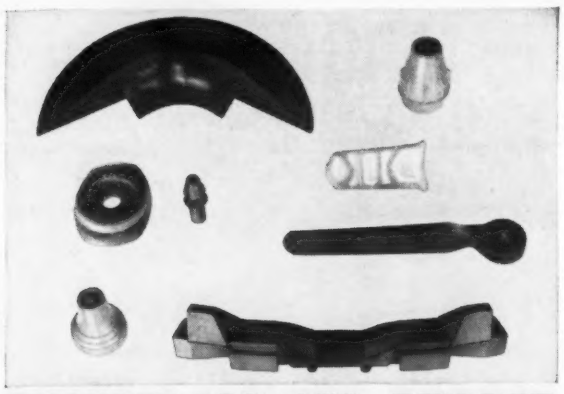
NEED LOW COST FILTERED WATER?



Why not investigate the many advantages of the ADAMS IWF INDUSTRIAL FILTER for all your water needs? Manufacturing skill backed by 25 years of building water and chemical filters insures you top value for your purchasing dollar. Rugged construction and the Adams Poro-Stone, Poro-Carbon and other permanent metallic filter media practically eliminate maintenance problems. The exclusive Adams air pressure dome dynamically backwashes and flushes out accumulated solids in minimum time — with minimum labor — to give top value for your production dollar. There is an Adams design to solve all your liquid polish filtration problems. Why not investigate the many advantages of an Adams unit in your plant? Bulletin #651 has all the information. Interested in chemical filtration? Ask for your copy of bulletin #431. Automatic filtration? Ask for bulletin #909. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

For more details circle **NED-43 K1** on enclosed inquiry slip



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to meet your specifications

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Faultless

THE FAULTLESS RUBBER COMPANY • ASHLAND, OHIO

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NORCROSS VISCOMETERS

for Automatically Measuring Viscosity in the process with the

PROVEN FALLING PISTON

Typical Applications:

1-Solvent Control—Solvent is automatically added to correct for evaporation losses in Finishing (flow coating, dipping and spraying), Wire Coating (enamel, plastic, rubber, etc.), Rotogravure Printing, Sizing and various coating processes.

2-End Point Determination—Viscosity is automatically recorded during polymerization and other chemical processes. All changes show as they occur so that the process can be terminated at the correct viscosity.

3-Starch Processes — A Recording Viscometer is used to automatically control starch cooking or enzyme converting to finish each batch accurately to the desired viscosity.

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HIGH SENSITIVITY

RUGGED CONSTRUCTION

SELF CLEANING

WIDE VISCOSITY RANGE

Write for complete information

NORCROSS CORPORATION

247 Newtonville Ave., Newton 58, Mass.

For more details circle **NED-45 K1** on enclosed inquiry slip

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13 MOONACHIE ROAD HACKENSACK, N. J.

SWING ARM LAMPS FOR EVERY PURPOSE

THE INSPECTOR

MAGNIFYING LAMPS FOR PRECISION WORK

- Used with printed circuits, blueprints, schematics, microminiatures, quality control inspection, hobbies, etc.
- Shadow-free 22 watt fluorescent light
- 5" precision polished magnifying glass
- Adjusts to any position
- Choice of colors and mounts
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- Also available with extra-large 7" lens and 32 watt lamp

45" Arm Reach

New Model M4 15" Gooseneck Inspector $27.00 List Less Bulb

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FINEST ALL-PURPOSE INCANDESCENT LAMP

Model SS-45

45" arm reach

$20.95 List

Less bulb

SUPER SWING-O-LITE

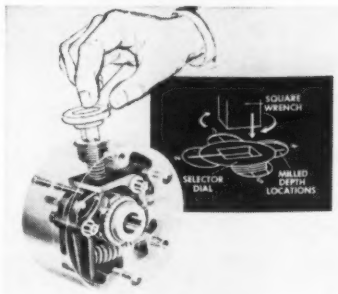
- Casts light over wider area
- Adjusts to any position
- Choice of colors and mounts
- Exclusive "Cool Aid" shade

Dealer & Distributor Inquiries Invited
Reps Wanted—Choice Territories Open

SWING-O-LITE, INC.
13 Moonachie Rd., Hackensack, N. J.
I'm interested. Send literature on your complete line of lamps.
NAME .....
ADDRESS .....
CITY ..... STATE .....

For more details circle **NED-46 K1** on enclosed inquiry slip

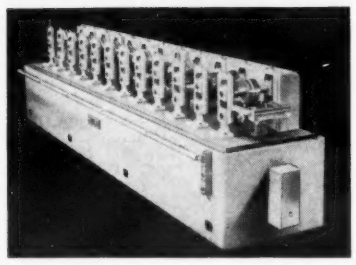
OVERLOAD RELEASE CLUTCH
torque limits can be set by dial



Predetermined torque limits can be set on the Torque Selector dial of the Trig-O-Matic overload release clutch. Minute adjustments can be made. As an additional safety factor, dial indicates maximum torque limit to protect against clutch lock-out. Clutch assures positive and instantaneous action against damage and shut-down time caused by overloads. An actuating mechanism available with the clutch provides for an electrical power shut-off, and can also activate a switch for brake, light, or signaling systems. • **Centric Clutch Co.,** Main Street at Route 9, Woodbridge, N. J.

For more details circle **NED-47 K1** on enclosed inquiry slip

FORM ROLLING MACHINES
made in three sizes and capacities

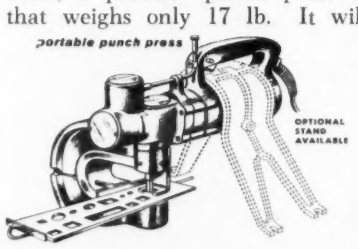


Series 40, 50, and 60 roll forming machines are similar in mechanical design, features, and appearance, but vary in basic size and capacity. Series 40 machines are primarily used in roll forming of small shapes from light gage metals such as used in metal awnings, weatherstripping, trim, and moldings. Forming of wider flat shapes and structural members of moderate size is performed on Series 50 machines. Largest Series 60 forms deep shapes used in roof panels and structural components. • **Met-L-Rol Corp.,** 1085-95 E. 14th St., Hialeah, Fla.

For more details circle **NED-48 K1** on enclosed inquiry slip

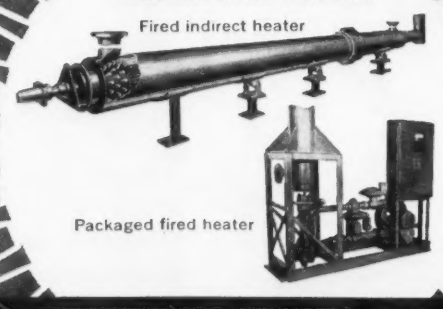
PORTABLE PUNCH PRESS
17-lb unit exerts 6000-lb pressure

Up to 6000 lb pressure can be exerted by this Porta-Press, a portable punch press with carrying handle that weighs only 17 lb. It will punch out round, square, or any shape holes up to 7/8 in. diameter in 3/16 in. steel or 1/8-in. aluminum. Easily carried to the job, press can also be used on assembly line. • **Modern Mfg. Co.,** 680 Davisville Rd., Willow Grove, Pa.



For more details circle **NED-49 K1** on enclosed inquiry slip

BROWN FINTUBE
indirect fired heaters



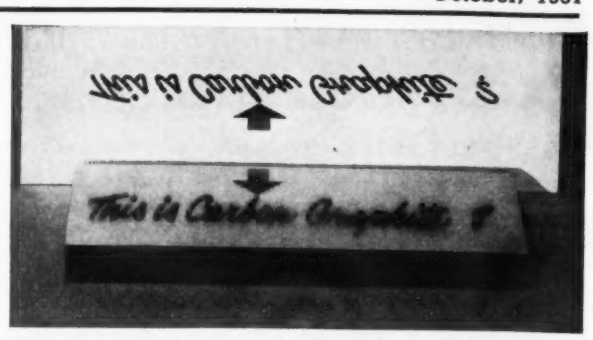
Fast startups..no costly delays!

Obtains operating temperature within 10 minutes of startup! Fintubes eliminate refractories, pass heat to process fluids quickly without unduly high tube wall temperatures. Lightweight and compact, these units are easily moved or added to for increased capacity. Competitively priced. *Write for Bulletin 400,* **Brown Fintube Company, 300 Huron Street, Elyria, Ohio.**

HEAT EXCHANGE SURFACE
BROWN FINTUBE
HEAT TRANSFER PRODUCTS

Serving Industry Through Fintubility

For more details circle **NED-50 K1** on enclosed inquiry slip



SMOOTH AND FLAT AS A MIRROR!

Extreme flatness and high polish are lesser-known qualities of KARAK (our versatile carbon graphite). The surface can be lapped to 1 light band and a 16 rms finish. Density can be extremely high. Surprising to design engineers familiar only with extruded carbons, KARAK can be harder than many of the hardest alloys (Scleroscope 100).

As a hard, dense, self-lubricating material, chemically inert, electrically conductive to an exceptional degree, machinable to great accuracy and capable of a smooth finish and of surfaces resistant to heat-distortion, KARAK is destined for many unexpected new uses in the growing complex of modern industry.

Write today for your copy of the KARAK data catalog.

the OHIO CARBON COMPANY
12508 BEREA RD, DEPT. 176, CLEVELAND 11, OHIO

For more details circle **NED-51 K1** on enclosed inquiry slip

KEEP YOUR INDUSTRIAL EQUIPMENT MOVING

WITH

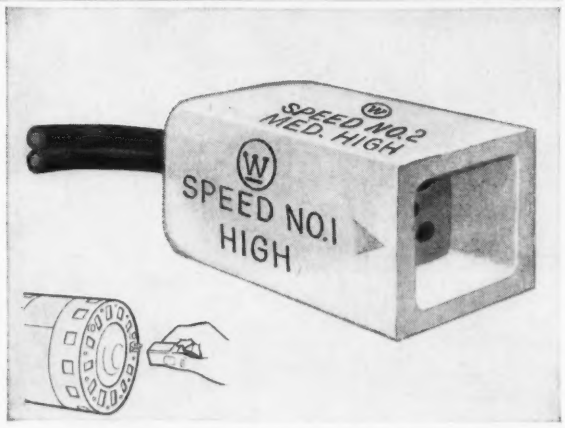
- MONEY SAVING
- TIME SAVING

INTIRCO *Laminated* INDUSTRIAL TIRES

INTIRCO industrial tires outwear pneumatics 3 to 1 and have more resiliency than solid tires. Laminated of precision wedge-shaped pads, they are tougher, stronger and outwear other types of industrial tires....No flats, no repairs, and no "down time". You can have money saving, time saving, INTIRCO tires on your equipment in 24 hours. Write today for full information, or phone us collect. PHONE: TAMPA 49-7231

INDUSTRIAL TIRE & RUBBER CO., INC.
P. O. BOX 5031 TAMPA 5, FLORIDA

For more details circle **NED-52 K1** on enclosed inquiry slip



New 4-way connector cuts motor installation time. New connector for four speed shaded pole or permanent split capacitor motor eliminates need for matching up leads on the job, makes it impossible for installer to misconnect and burn out motor. Simply rotate connector to select proper speed and plug into matching male connector on the motor. For full information check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure... if it's Westinghouse

J-03055

Westinghouse

For more details circle **NED-53 K1** on enclosed inquiry slip

Here's the fastest, most economical method ever devised for one man to move bulk materials. Only the Elba Winchdozer offers you all these advantages:
Versatility—Empties trucks, unloads cars, clears bins, loads conveyors.
Safety—Operator has complete pushbutton control at all times.
Speed—Built for quick, easy operation. One man does the work of three.
4 Models to Choose From.—Fits any job.

Write for Bulletin EW-2.

BURROWS

Burrows Equipment Company
Dept. NED-10, 1316 Sherman Ave.
Evanston, Ill.

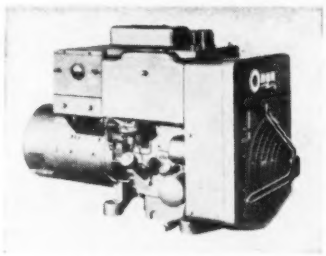
▲ For more details circle **NED-54 K1** on enclosed inquiry slip ▲

ICEPROOF PADLOCK
will not freeze or rust

Face of this ice and rust proof padlock is protected by a flush-fitting flip-up lid held snugly against the lock by a flat stainless steel spring. An optional dust cap to cover the keyway is available. Housing is cast aluminum alloy and other parts are nonferrous metals. Swing yoke of the lock easily breaks through heavy coatings of ice as the disc tumbler type lock is opened. Individually keyed (with or without provision for a master key), and keyed-alike models are offered. The 12-oz lock measures 5⅜ x 1½ x 2¼ in. and is priced at $6.50. • **McGraw-Edison (Canada) Ltd.**, CLM Industries Div., Dept. P, 3595 St. Clair Ave. E., Toronto 13, Canada.

▲ For more details circle **NED-57 K1** on enclosed inquiry slip ▲

ENGINES & GENERATORS
variety of power generators made from family of 12 basic engines



An almost limitless variety of engine-generator units can be produced from 12 basic engines in the J Series of industrial engines and engine-driven generators. First units available in this series include one, two, and four-cylinder models ranging from 3 to 15 kw. Others will be out by next spring.

Features of J Series include interchangeability of parts, service accessibility from one side of the engine, and adaptability to military specifications. Choice of gas, gasoline, or diesel fueling, as well as water or air cooling is offered.

Model 5JB-1R gasoline electric generating plant shown has a four-cycle, two-cylinder vertical inline engine rated 15 hp at 1800 rpm. It has a 5000-w ac generator with dc battery charging output of 12 v, 2-5 amp adjustable. • **Studebaker-Packard Corp.**, Onan Div., 2515 University Ave. S. E., Minneapolis 14, Minn.

▲ For more details circle **NED-58 K1** on enclosed inquiry slip ▲

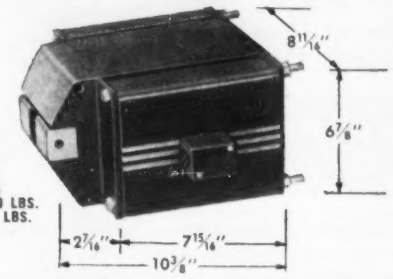
Perforated Metal Filter Medium

FREE Multi-Metal Wire Cloth Co.—Neva-Clog perforated metallic medium finds use as a resin retainer and regenerant distributor, granular carbon support, precoat filter medium, centrifuge line, and impingement screen. Its applications in carbon towers, ion exchange units, and as filter plates are emphasized in 8-page Bulletin 613.

▲ For more details circle **NED-59 K1** on enclosed inquiry slip ▲

TROMBETTA SOLENOID CORP.
MILWAUKEE WISCONSIN U.S.A.
329 N. Milwaukee Street Phone BRoadway 1-8347

SOLENOIDS
Give Same Performance for ALL Frequencies and Voltages • AC or DC!

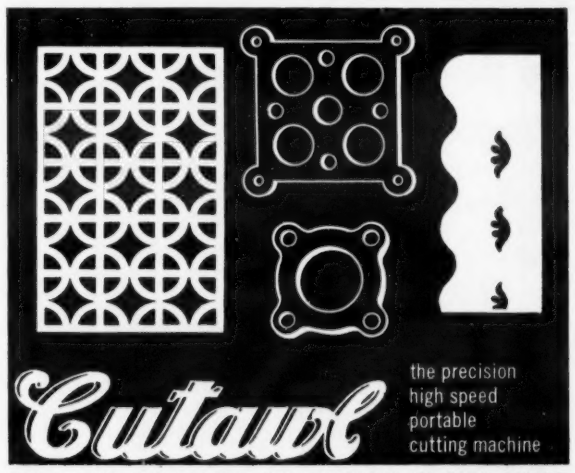


P-300 Pull Type and Q-300 Push Type solenoids have the same characteristics for all voltages and frequencies. Machines designed for 60 cycle operation can use the same solenoid for 25 cycle operation, or any other frequency. DC solenoids have a maximum pulling capacity 4 times that of AC solenoids. See below.

	AC	DC
LINES	P-300 & Q-300	P-300 & Q-300
Max. pull at 85% voltage	¾ to 150 lbs.	3 to 600 lbs.
Voltage, AC or DC	All voltages up to 750 volts	
Stroke	⅝" stroke to 5" stroke	
Frequency	All frequencies from 16⅔ to 66⅔	

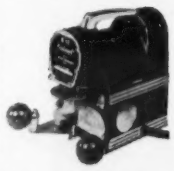
IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

▲ For more details circle **NED-61 K1** on enclosed inquiry slip ▲



CUTS ANY SHAPE OR ANY DESIGN IN ANY SHEET MATERIAL QUICKLY, ACCURATELY, INEXPENSIVELY!

Carry it to the job, start cutting anywhere — even in the center. The Cutawl makes its own starting hole, cuts effortlessly in any direction. Unique swivel cutting head follows intricate designs precisely. Machine always faces the operator regardless of the direction of cutting, enabling uniform and accurate control.

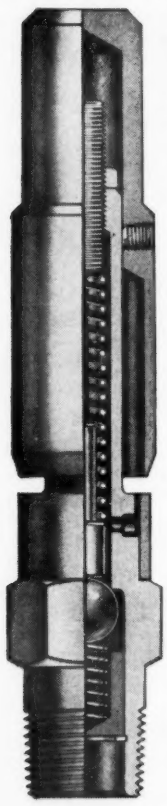


The Cutawl requires no special skill or training, cuts everything from thin paper to sheet metal. Many different chisels and saws and adjustable stroke and speed permit infinite variety. It is ideal for patterns and templates, custom millwork, linoleum inlay work and a host of other applications.

Free demonstration will be arranged upon request. For illustrated information and name of your nearest Cutawl dealer, write today for Catalog C29-E.

THE CUTAWL CORPORATION • BETHEL, CONN.

▲ For more details circle **NED-62 K1** on enclosed inquiry slip ▲



AIRLARM
LOW PRESSURE WARNING DEVICE

completely self-contained
entirely automatic
fully mechanical

Sets off shrill warning whistle when air pressure drops, shuts off when proper pressure is restored. Constructed for durability of aluminum and brass — screws into air line at any convenient point with ⅜" N P T connection. Has overall length of 4½". Requires no auxiliaries. Airlarm can be pre-set through a wide range of operating pressures.

$15.75

Typical Applications Include:
- air chucks and clamping fixtures
- instrument or control air systems
- dry sprinkler systems
- air presses
- air powered intensifiers
- air clutches and brakes
- air tools

RONEY, INC.
105 Cole Street
Dallas 7, Texas

▲ For more details circle **NED-55 K1** on enclosed inquiry slip ▲

New 1, 1½ and 2 h.p. motors on fractional horsepower frame sizes. Handle hundreds of applications at less cost. New integral horsepower, 56 frame, 1 and 3 phase motors, developed by Westinghouse can save you money. Perfect for hundreds of applications. (Require only half the space needed for conventional integral horsepower motors.) Check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure... if it's Westinghouse

J-03056

Westinghouse

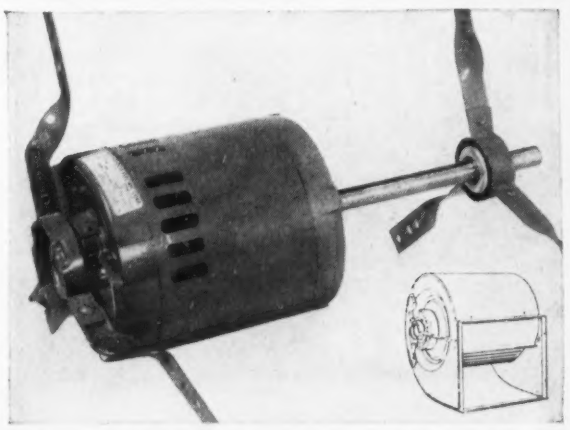
▲ For more details circle **NED-56 K1** on enclosed inquiry slip ▲

New bulletin lists best small motor buys. Free bulletin keeps you up to date on prices, quantities, and specifications of more than 500 different types of fractional hp motors, immediately available from stock. Helps you save time and money when you need motors. To receive free bulletin regularly, check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure... if it's Westinghouse

J-03057

Westinghouse

▲ For more details circle **NED-60 K1** on enclosed inquiry slip ▲



New blower motor system combines advantages of conventional belt and direct drive systems. New Flexydrive floater bearing motor system gives superior performance, reduced maintenance and lower initial costs than belt drive systems . . . and the compactness of direct drives. Get detail comparison, full information . . . check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure . . . if it's Westinghouse

J-03058

Westinghouse

▲ For more details circle **NED-63 K1** on enclosed inquiry slip ▲

DEFEAT DUST

Nose, Throat and Lung Protection

DUPOR No. 24 RESPIRATOR

Approved by U. S. Bureau of Mines

Provides proven protection from pneumoconiosis-producing dusts. Filters the air and makes it clean. 24 sq. inches of filtration area. Soft rubber face mask. One of many DUPOR models of proven superiority. Write for literature. See your safety equipment supplier or order your sample direct —$3.25 postpaid.

H. S. COVER
Dept. 1005, South Bend 14, Ind.
"Respirators for Industry Since 1894"

▲ For more details circle **NED-68 K1** on enclosed inquiry slip ▲

Make overhead space contribute to plant earnings

CAPACITIES ½ TO 5 TON

CM METEOR WIRE ROPE ELECTRIC HOIST

• SINGLE AND TWO SPEED MODELS

METEORS offer real materials handling help in many ways. Read all about their unusual operating advantages in the METEOR CATALOG *sent on request.* Illustrates all details of suspension and construction. Prices included.

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: COLUMBUS McKINNON LIMITED, ST. CATHARINES, ONT.

▲ For more details circle **NED-69 K1** on enclosed inquiry slip ▲

Di-acro

PRECISION PUNCHES and DIES

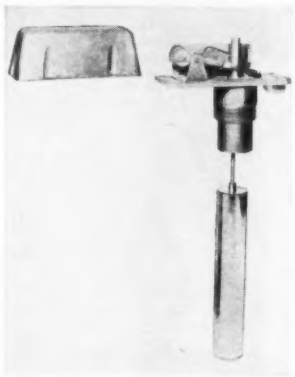
For accurate hole location the centering point on the punch is ground absolutely concentric to the cutting edge—there's no "slop" even when several holes are punched in a blank. Precision made of high quality tool steel. Over 500 standard sizes in 12 standard styles available for immediate delivery from factory and distributor stocks.

Ask your Di-Acro distributor for details or write us.

DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
7810 Eighth Ave. • Lake City, Minn.

▲ For more details circle **NED-70 K1** on enclosed inquiry slip ▲

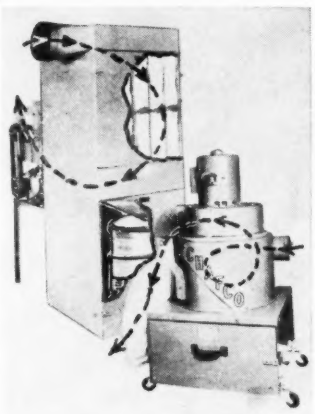
LIQUID LEVEL INDICATOR for open or pressure vessels



Model DLR Modulevel precision level transducer for liquid level indication in open or pressure vessels measures the level and converts it directly to electrical resistance. A frictionless magnetic coupling transmits motion from level changes in the vessel to contact wiper movement on the potentiometer winding inside the instrument housing. Primary level change is sensed by a range displacer suspended in the liquid. Displacers of various lengths are available. The transducer can be calibrated for liquid specific gravity variations of 0.7 to 1.1. Resistance-type reading instruments for remote indication, alarm, recording, or control can be used. • **Magnetrol, Inc.,** 5300 Belmont Rd., Downers Grove, Ill.

▲ For more details circle **NED-71 K1** on enclosed inquiry slip ▲

DUST COLLECTOR in 3800 and 5000-cfm models



Improved blower design in this Model 212 twin-blower Chafco dust collector has increased its capacity from 3600 to 3800 cfm. It is powered by a 5-hp motor. Also available is a triple-blower 7½-hp Model 312 which handles 5000 cfm. Smaller unit has a 12-in. inlet and can accommodate up to eight drop pipes, while Model 312 has a 15-in. inlet for up to twelve 4-in. branch tubes. All have 25 flameproof filter tubes with a manual shaker for cleaning. Prices range from $640 to $1360. Smaller unit shown is the portable Spiraclone Model 1-A which handles 420 cfm with a ½-hp motor, and is priced at $195. • **Chicago Air Filter Co.,** 4125 Washington Blvd., Hillside, Ill.

▲ For more details circle **NED-72 K1** on enclosed inquiry slip ▲

Fire Extinguishers & Systems

FREE Walter Kidde & Co.—Portable fire extinguishers, smoke and fire detectors, and built-in carbon dioxide systems are reviewed in 12-page Bulletin P-67. Featured chart outlines which types of extinguishers are suitable on ordinary combustible (Class A), flammable liquid (Class B), and electrical (Class C) fires.

▲ For more details circle **NED-73 K1** on enclosed inquiry slip ▲

THE BEST BUY for light use

Buschman
No. 138
ROLLER CONVEYOR 12" & 18" WIDTHS
AVAILABLE FROM STOCK

Immediate delivery 5' & 10' long portable straight and curved sections in 2 standard widths. Other widths 6" to 30" made to order.

Only Buschman has so many superior features in one conveyor

★ **Spring-O-Matic Axles,** ¼" hex for fast positioning of rollers
★ **Galvanized Roller,** rust resistant, lively, free-running; rounded ends
★ **Zinc Plated Bearings,** integral type rated at 80 lbs. capacity
★ **Quick-Eez Couplings,** setup is a snap. Both ends are the same
★ **Galva-Finish Frames,** protection at sheared edges, welded joints, punched holes
★ **Easy-To-Change Roller Spacing,** on increments of 1½" centers for complete adaptability

And Buschman has *in stock* a complete range of roller and wheel conveyors for light, medium and heavy duty.

For complete information write THE E. W. BUSCHMAN COMPANY *4482 Clifton Avenue, Cincinnati 32, Ohio*

Buschman CONVEYORS

376

▲ For more details circle **NED-74 K1** on enclosed inquiry slip ▲

SMALL BORE CYLINDERS

AIR AND HYDRAULIC

- **Sizes:** ⅜"—½"—¾"—1⅛"—1½"—2".
- **Stroke Lengths:** To suit.
- **Mountings:** Nose or rod end, trunnions, flange, foot or clevis. (Mounting brackets available.)
- Non-corrosive throughout.
- Heavy wall tube (⅛" thick brass, pump cylinder finish).
- Polished and ground stainless steel piston rods.
- All parts easily and economically serviced. (No brazed joints. All lock threaded assembly.)
- 0-500 psi operating pressure range.
- Aircraft type O-ring seals. (Buna N standard compound.)
- T rings available for higher pressures.
- Base prices start from $5.50 plus 40c per inch of stroke.

IMMEDIATE DELIVERY FROM STOCK.

CYLINDERS & VALVES, INC.

8583 PROSPECT RD.
CLEVELAND 36, OHIO PHONE: BErea 4-2184

▲ For more details circle **NED-75 K1** on enclosed inquiry slip ▲

developed specifically for industrial & commercial use!

A NEW **All American PLANT LOCKER**

for PACKING PLANTS • LOCKER PLANTS • FOOD PROCESSORS • CANNERIES • GARAGES • PAINTERS • CLINICS • LABORATORIES • MANUFACTURERS • RESTAURANTS

Fully ventilated on 3 sides to provide maximum air circulation and faster, fresher drying, this new All American Locker is the perfectly practical solution for storing clothing and uniforms in plants and institutions where odors and dampness create a storage problem. Clothing hangs loosely where fresh air circulates freely through them to speed up drying time and eliminate offensive odors.

The Plant Locker is built to provide:

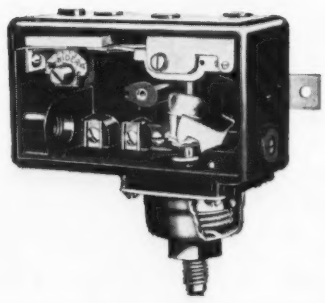
- ROOM, LIGHT, CLEANLINESS
- COMPLETE ADAPTABILITY
- ATTRACTIVE APPEARANCE
- RUGGED STRENGTH AND LONG LIFE
- SAFE PROTECTION

Write today for complete specifications, quotations and prices!

DeBourgh MANUFACTURING Co.
Dept. E • 2924 27th Avenue South • Minneapolis, Minnesota

▲ For more details circle **NED-76 K1** on enclosed inquiry slip ▲

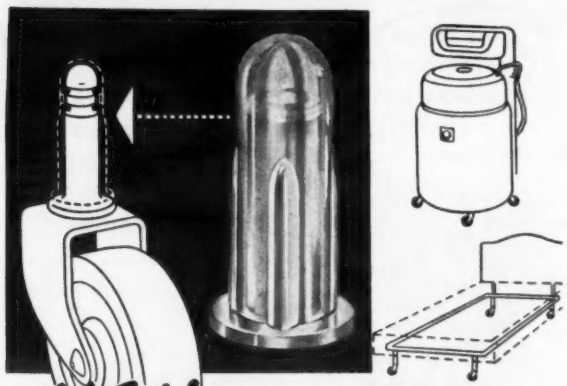
Pressure, Temperature Controls



ASCD makes a wide variety of heavy duty controls for either pressure or temperature applications. They are extraordinarily rugged, can be designed to meet almost any condition. Write to American-Standard Controls Division, 5900 Trumbull, Detroit 8, Michigan.

AMERICAN-Standard
CONTROLS DIVISION

▲ For more details circle **NED-77 K1** on enclosed inquiry slip ▲



NEW Faultless PLASTIC SOCKETS

NOELTING Faultless Casters

Here's a new advantage for your mobile metal equipment. Your products will have longer caster and socket life with *new* Faultless specially developed Plastic Caster Sockets.

Tests prove these plastic sockets are tough—absorb shocks ... eliminate metal to metal wear ... won't rust. Casters swivel easily. The new Faultless Caster Sockets, molded of specially developed, sturdy plastic, will prove ideal for metal bed frames, washing machines, typewriter stands, and many other metal products. Write for full particulars.

Faultless Caster Corporation
Evansville 7, Indiana

Branch offices in principal cities; see the Yellow Pages of the telephone book under "Casters." Canadian office: Stratford, Ontario.

▲ For more details circle **NED-78 K1** on enclosed inquiry slip ▲

Here's new economy for users of slotted angle. Yes, this universal, *interchangeable* new material can be used to build nearly *anything*, *anywhere* ... with new speed and savings.

STURDI-BILT Slotted Angle combines maximum flexibility and convenience with the utmost strength and durability. Result: you get more value for less money!

FREE: Send today for STURDI-BILT Slotted Angle catalog including accessories, capacity charts, suggested applications.

STURDI BILT — Racks the goods of the world

STURDI-BILT
Material Handling Division
Union Asbestos & Rubber Company
332 South Michigan Avenue
Chicago 4, Illinois

NOTE: Distributor inquiries are invited.

▲ For more details circle **NED-79 K1** on enclosed inquiry slip ▲

POWER LINE MONITOR
checks for under or over voltage

Usable for maintenance, production, testing, or other operations, Model WV-120A power line monitor provides a continuous check of line voltages in the range of 100 to 140-v, 25 to 400-cycle ac. Under or over voltage is instantly shown by this bench or wall mounting instrument. The expanded scale for easy reading is combined with a ±3 per cent over-all accuracy. Easily read at a distance of 10 ft, it indicates a true rms value. Price is $14.95. • **Radio Corp. of America,** Electron Tube Div., 415 S. Fifth St., Harrison, N. J.

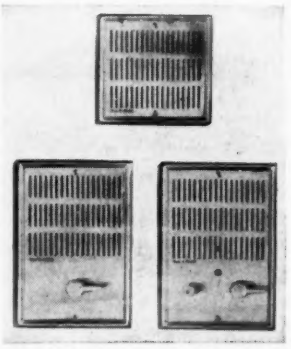
▲ For more details circle **NED-81 K1** on enclosed inquiry slip ▲

VIBRATORY FEEDER
feeds up to 200 pieces per minute

Wide range of small parts including rivets and terminals can be fed into staking, punching, riveting, terminal setting, and similar automatic production tools by the Electrofeed vibratory feeder. The compact, self - contained unit feeds at rates of from 0 to 200 pieces per minute, clockwise or counterclockwise. Feed rate is adjusted by a dial potentiometer. Feeders are offered in bowl diameters of 8, 10, and 12 in. • **Black & Webster, Inc.,** 570 Pleasant St., Watertown 72, Mass.

▲ For more details circle **NED-82 K1** on enclosed inquiry slip ▲

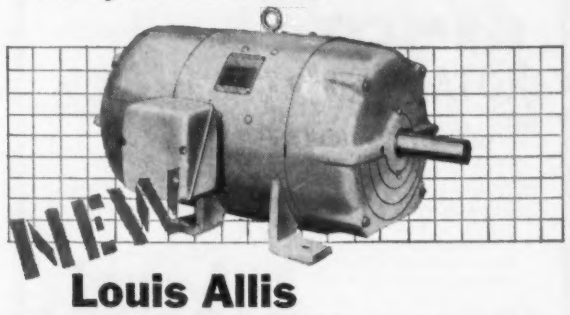
INTERCOM SUB-STATIONS
surface or recess types offered



Models for surface or flush mounting on a wall or desk are offered in Talk-A-Phone intercommunication sub-stations. Both styles can be intermixed within the same system. Model T-LR-2R requires a $4\frac{1}{8}$ in. square, 2-in. deep wall opening, whereas Models T-LR-3R and T-C-41R require openings $4\frac{1}{8}$ x $6\frac{1}{2}$ x 2 in. Housed with stainless steel front panels, the built-in units provide full intercom facilities, performing exactly as their desk model counterparts. • **Talk-A-Phone Co.,** 5013 N. Kedzie Ave., Chicago 25, Ill.

▲ For more details circle **NED-83 K1** on enclosed inquiry slip ▲

Completely redesigned —not just re-rated



Louis Allis FLEXITORQ® D-C Motors

The Louis Allis Flexitorq is a brand-new high-performance d-c motor. It offers you improved commutation; exceptionally low brush wear; 400% short-time and 15% continuous overload capacity; and unmatched field flexibility.

Improved armature and brush design provides 40% faster acceleration, plus much better deceleration, reversing, and speed changing. Class B insulation rates the new d-c motors at 60°C rise for continuous operation—and resists heat, moisture, acids, alkalies, etc.

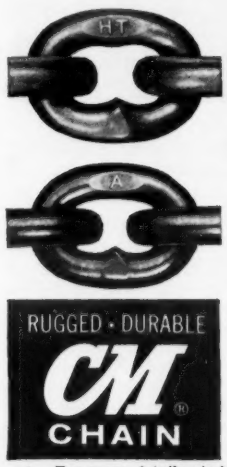
Check the Flexitorq. It's the most improved d-c motor for constant and adjustable speed applications. Sizes from 1 to 400 hp, with choice of enclosures and modifications. Write for Bulletins 3150 and 3200 to The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

DC-218

▲ For more details circle **NED-84 K1** on enclosed inquiry slip ▲

CM LIFETIME BRANDED LOAD BINDER CHAINS



INSWELL HIGH TEST—the favorite for load binding... features ultra-short, non-kinking carbon steel links. 3/8" size has a Working Load Limit of 5,100 lbs.

CM HERC-ALLOY—the ultimate in quality alloy steel chain... has no equal for rugged applications requiring high strength and durability. 5/16" size has a Working Load Limit of 5,000 lbs.

There is a difference in chains... specify CM for the best

COLUMBUS McKINNON CHAIN DIVISION
COLUMBUS McKINNON CORPORATION
Tonawanda, N. Y.
Distributors in All Areas

CM® HERC-ALLOY®

▲ For more details circle **NED-85 K1** on enclosed inquiry slip ▲

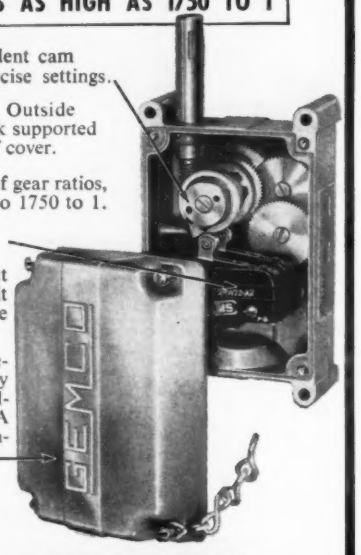
▲ For more details circle **NED-80 K1** on enclosed inquiry slip ▲

simplify complex linkage and control problems...

GEMCO
ROTARY LIMIT SWITCHES

GEAR RATIOS AS HIGH AS 1750 TO 1

- Quick, independent cam adjustment. Precise settings.
- Easy mounting. Outside holes. Cam block supported independently of cover.
- Broadest range of gear ratios, from 5 to 1 up to 1750 to 1.
- Easy to wire. Snap-action switches in direct line with conduit connection. More inside space.
- Tough, impact resistant Fibralloy case! (Also available in NEMA type 4 and 7 enclosures.)



WRITE FOR BULLETIN 254

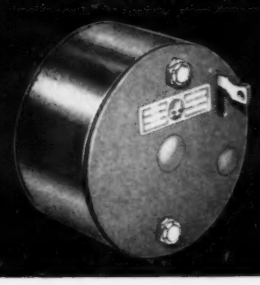
GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

For more details circle NED-86 K1 on enclosed inquiry slip

No special design needed for:

New COMPACT Brake

FITS ALL MOTORS WITHOUT DISASSEMBLY:



1. Slide brake on motor shaft.
2. Bolt to standard NEMA "C" flange mounting. (Frames 56c thru 184c).
3. Knockout plug for Thru-Shaft connection.
4. Hinged, wrap-around cover eliminates cover removal. Ideal for confined spaces.

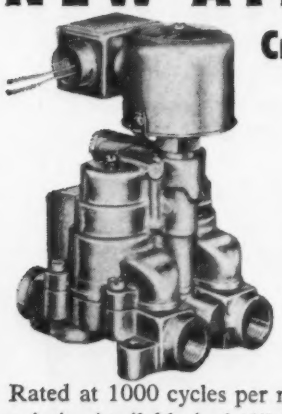
The new Dings 60 series 1½ and 3 lb. ft. torque "Universal" COMPACT Brake offers all the advantages of Dings standard brakes plus economy, true versatility and welcome ease of attachment and access. For continuous or intermittent service. Send for details . . . WRITE FOR BULLETIN BK4709.

DB-461-S

DINGS BRAKES, Inc.
A Subsidiary of Dings Magnetic Separator Co.
4758 West Electric Avenue
Milwaukee 46, Wisconsin

For more details circle NED-87 K1 on enclosed inquiry slip

NEW AIR VALVE



Crescent® "Mach 2"

- Standard Solenoid
- Explosion Proof Solenoid
- Manual Over-Ride
- 3-Way and 4-Way
- Sub-Base Mounting

Rated at 1000 cycles per minute continuous duty; 150 psi air. Available in 1/4" to 3/4" pipe sizes. Long coil life and improved valve performance assured by short solenoid plunger stroke (3/32") and reduction of friction in pilot and main valve members. Entire valve releases from sub-base without disturbing plumbing by unscrewing four captive bolts. Threaded conduit connections; captive cover clamps and body screws. Ask for 'Mach 2' Catalog.

CONTROL VALVE DIVISION
Barksdale valves
5125 Alcoa Ave., Los Angeles 58, Calif.

For more details circle NED-88 K1 on enclosed inquiry slip

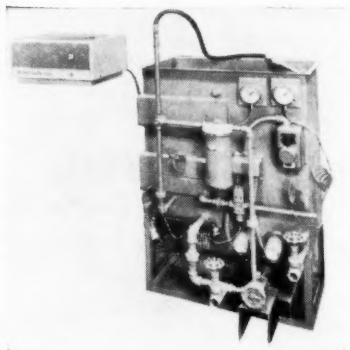
FLAT-TOP CONVEYOR BELTING
hinged-steel type handles bulky, hot, or heavy items

Links of this hinged-steel conveyor belting are end-curved, interlocking, and overlapping to form an almost smooth top carrying surface. Shafts at each pitch extend through to join the side drive chains and position them. The flat, continuous load-supporting conveyor surface adapts to above floor or flush-with-floor installation, and handles bulky, hot, or heavy materials and assemblies.

Conveyors can be designed to transport loads in one or both directions, and belting will negotiate convex or concave curves, maintaining close fitted link joints at all times. Flush-with-floor installations form a "moving sidewalk" with no parts extending above the belt. Items wider than the conveyor can thus be handled. Even in motion, conveyor permits cross flow of foot or vehicle traffic. Belts are available with 6 or 9-in. pitch links, in widths from 12 to 60 in. • **May-Fran Mfg. Co.**, 1710 Clarkstone Rd., Cleveland 12, Ohio.

For more details circle NED-89 K1 on enclosed inquiry slip

ULTRASONIC DEGREASER
powered by 500-w generator



Boiling compartment to remove gross contaminants from metal parts and assemblies, and an ultrasonic compartment for final microscopic cleaning and rinsing are built into this vapor degreaser. Ultrasonic compartment is powered by a solid state 500-w generator with Magnatrak automatic tuning. Both 11 x 14 x 8-in. boiling and ultrasonic compartments of the stainless steel unit are equipped with dial thermometers, drain valves, and removable work rests. Solvent placed in the 7½-gal boiling compartment is heated until vapors fill the tank and condense near the top. Clean condensate drips into the 6¾-gal ultrasonic compartment and overflows into the boiling compartment, completing the solvent cycle. • **Westinghouse Electric Corp.**, Industrial Electronics Dept., 2519 Wilkens Ave., Baltimore 3, Md.

For more details circle NED-90 K1 on enclosed inquiry slip

Write direct to company for information
PADDOCK TOOL CO.
Guide Makers Since 1920
514 STATE AVE., KANSAS CITY, KANSAS

For more details circle NED-91 K1 on enclosed inquiry slip

David Round **HOISTING EFFICIENCY**

...especially in work areas cramped for headroom

MODEL 55 CABLE TYPE ELECTRIC Hoist and Trolley
Write for Bulletin 119-EH

Cable-Aire
PNEUMATIC HOIST
Meets requirements for operation in hazardous atmospheres
Write for Bulletin 300-CA

Order from your Distributor
Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO

For more details circle NED-92 K1 on enclosed inquiry slip

New from AO

ONE SIMPLE CLIP HOLDS ALL DURA-GUARD SAFETY CAP ATTACHMENTS

Choose from 10 welding helmet models (fiber glass and vulcanized fiber, lift or stationary fronts), flexible mask welding goggles, welders' and chippers' coverglas goggles . . . you can attach them all to any AO Dura-Guard safety cap with one simple pair of X30 nylon clips. No need now to stock caps with and without attachments. Just add X30 clips to regular stock of caps.

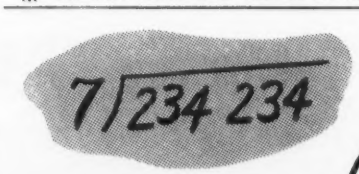
Because they are plastic, these clips insulate the metal attachment posts that fit into them, help retain the Dura-Guard cap's dielectric properties. For full details and prices of accessories, contact your AO Safety Products Representative or write direct.

Your Surest Protection... AO SURE-GUARD Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts

Safety Service Centers in Principal Cities

For more details circle NED-93 K1 on enclosed inquiry slip



MATHEMATICAL CURIOSITY

Any six digit number made up of two groups of the same three digits is divisible by seven, i.e.: 7 | 123 123 Try it!

All brush applications fall into one of three categories: applying, arranging, removing.

Try your brush needs in these three basic categories — you'll find they fit. Try Jenkins' METLKOR in all your brush applications. You'll find they not only fit, but contain a magic divisor too. American industry has been relying on Jenkins' for dividing brush problems for nearly 100 years. Pose your brush problem . . .

Send for NEW CATALOG

Specify Jenkins' METLKOR—the original—the best *Metal Core* brush

METLKOR®
CYLINDER BRUSHES and LIFEWOOD® WOOD BACKED BRUSHES

M. W. JENKINS' SONS, INC.
Serving Industry For Almost 100 Years
P.O. Box 68, Dept. 15B, Cedar Grove, Essex County, N. J. • CEnter 9-5150

For more details circle NED-94 K1 on enclosed inquiry slip

For Faster, Better Soldering

Use Rubyfluid

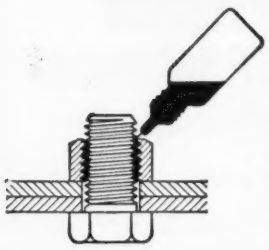
RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.
For stainless steel soldering, use RUBY's Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

▲ For more details circle NED-95 K1 on enclosed inquiry slip ▲

STOP breakdowns due to loose nuts and bolts with LOCTITE® SEALANT



A single drop makes any nut a lock nut...any screw a lock screw

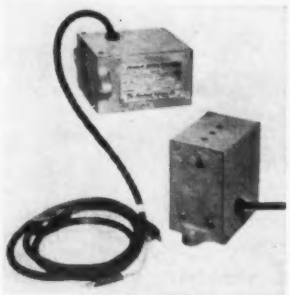
Liquid Loctite wicks into joint between nut and bolt. Hardens automatically. Holds so tight no vibration can shake it loose. Provides several times the strength of self-locking fasteners, yet is removable with ordinary tools.

Call your distributor or write us for literature and free sample.

LOCTITE® SEALANT
AMERICAN SEALANTS COMPANY
229 NORTH MOUNTAIN ROAD • HARTFORD 11, CONN.

▲ For more details circle NED-96 K1 on enclosed inquiry slip ▲

ELECTRIC VIBRATOR for bins, chutes, and hoppers



Controlled intensity vibration at a 3600-cycle frequency is provided by this MC-2 electric vibrator for small bins, chutes, and hoppers. It has an adjustable magnetic air gap, ventilated dustproof case, two mounting feet, 6-ft cord, on-off switch, and ground wire. Price is $30. • **Cleveland Vibrator Co.**, 2828 Clinton Ave., Cleveland 13, Ohio.

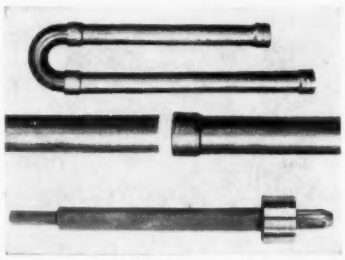
▲ For more details circle NED-98 K1 on enclosed inquiry slip ▲

DOCK SHELTER COVER of rubber coated nylon fabric

Can-Pro dock shelter is now available covered entirely with Coverlight H, a nylon fabric coated with Hypalon synthetic rubber. The tear resistant cover is water, rot, and mildew proof. Dock shelter features a spring tension frame that gives at any point under truck pressure without pushing the rest of the shelter in or out. Two top sections of different lengths insure a good fit with both high and low trucks. A Coverlight covered shelter for an 8 x 8-ft opening and with a 2-ft projection costs $175. Shelter with a No. 8 all-weather, flame resistant canvas cover, plus a top flap of Coverlight, is priced at $125. • **Can-Pro Corp.**, 19 E. McWilliams St., Fond du Lac 2, Wis.

▲ For more details circle NED-99 K1 on enclosed inquiry slip ▲

TUBE BELLING TOOL driven by air or electric motor



Snug sliding fit of one tube or pipe inside another of the same original diameter is made possible with this belling tool. Driven by an electric or air motor, the spinning tool accurately expands the pipe or tube end. Application shown is in tube bundles which require separate return bends that must be soldered or brazed in place. • **Elliott Co.**, Jeannette, Pa.

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AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away **SCALE RUST PAINT**

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for the money-saving facts.
AURAND MFG. & EQUIP. CO.
1322 Ellis St. • Cincinnati 23, Ohio
Canadian Distributor: E. B. Peerless, LTD., 5934 Fraser St., Vancouver 15, B. C.

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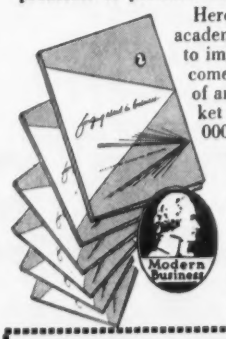
HALF the world is half asleep! Men who could be making *twice* their present salaries are coasting along, hoping for promotions but doing nothing to bring themselves forcefully to the attention of management.

They're *wasting* the most fruitful years of their business lives . . . throwing away thousands of dollars they may never be able to make up. And, oddly enough, they don't realize—even remotely—the tragic consequences of their failure to forge ahead while time is still on their side.

Engineers and other technically-trained men are particularly prone to "drift with the tide" because their starting salaries are reasonably high and promotions come at regular intervals early in their careers. It isn't until later—too much later in many cases—that they discover there is a definite ceiling on their incomes as technicians.

Send for Your Free Copy of "Forging Ahead in Business"

If you want to discover how to succeed while you are still young—if you want to avoid the heartbreak of failure in later years—send today for *"Forging Ahead in Business"* . . . one of the most practical and realistic booklets ever written on the problems of personal advancement.



Here you will find—not a "pep talk," not an academic lecture—but cold, hard *facts* on how to improve your position and increase your income. You will be told what the qualifications of an executive are in today's competitive market . . . what you must *know* to make $15,000, $20,000 or more a year . . . what you must *do* to accumulate this knowledge.

"Forging Ahead in Business" was written for mature, ambitious men who seriously want to get down to bed-rock in their thinking about their business future. If you feel it is meant for you, simply fill in and return the coupon below. Your complimentary copy will be mailed to you promptly.

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SLIMMER, MORE DRILL POWER, LONGER LIFE!

Redesigned Black & Decker Heavy-Duty End-Handle Drill has a beefed-up motor for more drill power, longer life on the job. New slimmed-down design offers greater side clearance. Non-slip contour handle assures natural gripping, better control. Your choice of three capacities, too—¼", ⅜" and ½".

You'll find this drill, as all Black & Decker tools, sold by leading distributors everywhere. For sales or service, look in the Yellow Pages of your telephone book under TOOLS ELECTRIC

Black & Decker
CUTS MAN-HOURS TO MINUTES

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A Stewart-Warner

PRECISION BALANCER *can*

Increase engine and bearing life • Give longer, smoother electric motor service • Decrease vibration, noise • Improve product quality and balance from the smallest to the largest rotating part, without special tooling.

Stewart-Warner's balancers offer both quality and economy: they're priced lowest, yet outperform all others in work range, accuracy, fast setup time

Send for FREE balancer catalog . . . or contact your Stewart-Warner representative!

Symbol of SW Excellence

STEWART-WARNER CORPORATION
INDUSTRIAL BALANCER DEPARTMENT
Dept. CK-101, 1850 Diversey Parkway, Chicago 14, Illinois

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new HAGEN timer permits setting "on" time directly as

PERCENT OF CYCLE

SAVES SPACE, CUTS POWER LOSS

Only 3-1/2" square at the face, 4-5/16" deep, the Hagen Percent-O-Cycle Timer is a worthwhile substitute for power-wasting rheostats and variable voltage equipment on many applications. Snap action contacts, operated by synchronous motor drive, permit this unit to handle loads up to 25 amps at 120/230 volts, 60 cycles.

REPEAT ACCURACY 1/10 OF 1%

Easy to read dial makes it possible to set timer to 1/4% of desired setting.

Send for new HAGEN Bulletin 1360.

BLISS HAGEN **MANUFACTURING DIVISION** / BARABOO, WISCONSIN
Of The Gamewell Company

NED-1061 *AN E. W. BLISS COMPANY SUBSIDIARY*

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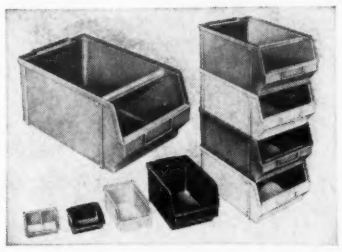
CHAIN WRENCH
for 1/8 to 4-in. pipe

Double - jaw construction of the C-12 utility chain wrench allows it to be ratcheted in either direction without removal and refastening. Only 3/4 in. of clearance is required to apply the tool, made to accommodate 1/8 to 4-in. pipe. The 12 7/8-in. long handle is an alloy steel forging. Both it and the jaw are nickel-chrome plated. Extra links may be added to the 15 3/4-in. chain. • **Ridge Tool Co.,** Box 670, Elyria, Ohio.

▲ For more details circle **NED-106 K1** on enclosed inquiry slip ▲

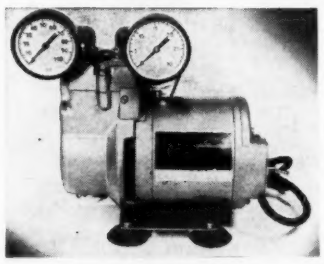
PLASTIC PARTS BOX
13 x 8 x 6-in. unit has stack brace



Stacking brace on the new size PB-4 Plastibox allows safe, high stacking of loaded boxes. Measuring 13 x 8 x 6 in., the PB-4 is larger than the four unbraced models shown at lower left in photo. The one-piece molded plastic unit is offered in green or yellow colors and resists oil, water, and most chemicals. Accessories include mounting rails which allow boxes to be used on Lewis floor trucks, floor stands, and bench stands. • **G. B. Lewis Co.,** 269 Montgomery St., Watertown, Wis.

▲ For more details circle **NED-107 K1** on enclosed inquiry slip ▲

VACUUM-PRESSURE PUMP
moisture eliminator is built in



Quiet-operating Model 13152 vacuum/vacuum pressure pump is equipped with easy-to-read vacuum and pressure gages, aftercooler, pulsation chamber, intake filter, vibration mounts, and a muffler. A moisture eliminator is built in. Pump provides 26 in. Hg vacuum and 65 psi pressure, and is designed for continuous duty operation with vacuum filters, distillation units, or laboratory instruments. All bearings are self-lubricating and the seal between piston and cylinder is self-adjusting. The 9 x 5 x 9-in. pump is powered by a 1/12 hp, 110 v ac motor. Price is $69. • **Gelman Instrument Co.,** 106 N. Main St., Chelsea, Mich.

▲ For more details circle **NED-108 K1** on enclosed inquiry slip ▲

8-7-6-5-4 3/4

Stop the count-down! This is the right size for any hand that works an air-powered pencil grinder. The new Model 505 is 4 3/4" long, 8 oz., light, 40,000 revs fast . . . specs that spell efficient use of carbide burs and rotary files. Internal 3-blade motor produces instant torque, pulls a 1/4-horse. Ask for a demonstration. Distributors everywhere, or write us in Solon, Ohio.

Self-aligning collet inside finger-formed nose is integral part of shaft. Change burs in seconds with pin and wrench.

Finish is satin-smooth, anodized. No buttons, no levers.

No annoying air blast with safe, quiet, 360° exhaust muffler. Just twist end to select speeds.

LOOK UNDER TOOLS—PNEUMATIC

B&D **Master Power**
A subsidiary of
Black & Decker

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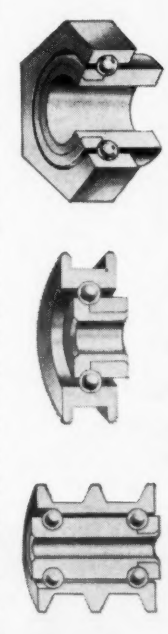
KILIAN

UNGROUND BALL BEARINGS *offer you—*



QUALITY—For more than 40 years Kilian Unground Ball Bearings have been the highest quality and the most accurate unground ball bearings obtainable.

ECONOMY—Inexpensive Kilian Unground Ball Bearings are the perfect answer where precision is not required, where loads are light and speeds are under 2500 r.p.m.

SUPERIOR CONSTRUCTION—All component parts are machined from steel bars and are properly heat treated thus assuring greatest accuracy and an absolutely true running concentric bearing.

CUSTOM DESIGN—Shown here are just a few of the thousands of different bearings that have been designed and produced for America's leading industries. Because of our method of manufacture, we can offer you special bearings in quantities of 2500 or more.

CHOICE OF MATERIALS—In addition to carbon steel, we can furnish bearings made of bronze and stainless steel. NEOPRENE and NYLON tired outer races are available where quiet operation is desired.

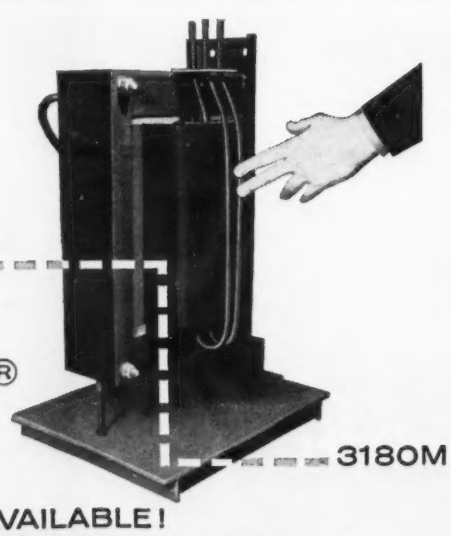
CHOICE OF FINISH—For corrosion resistance as well as appearance, various types of finishes are available such as zinc, cadmium, dulite, nickel and chrome.

KILIAN
MANUFACTURING CORP.
SYRACUSE, N. Y., U.S.A.
CATALOG ON REQUEST
Distributed throughout United States and foreign countries.

▲ For more details circle **NED-110 K1** on enclosed inquiry slip ▲

Are YOU using costly EPOXIES...
in ordinary circuit applications?

Now



NEW, MULTI-PURPOSE
STYCAST® 3180M

LOWEST-COST FORMULATED EPOXY AVAILABLE!

Why waste dollars on expensive epoxies . . . or . . . rely on downright inferior materials? STYCAST® 3180M — an extremely low-cost, epoxy-type casting resin — was developed especially for YOU in the electrical field. A two-part system (one black — one white) STYCAST® 3180M is ideally suited to production techniques. Equal parts, by weight or volume. Easily handled by production dispensing equipment — or manually in small batches. Resistance to moisture comparable to best known epoxy systems. Exceptionally good thermal stability. Low viscosity. Room temperature or fast oven cure.

For the answer to an extremely effective job at lowest possible cost, send for Technical Bulletin #7-2-24 . . . complete data on STYCAST® 3180M.

Emerson & Cuming, Inc. Plastics/Ceramics for Electronics

Canton, Massachusetts • 604 W. 182nd St. (Gardena), L.A., California

▲ For more details circle **NED-105 K1** on enclosed inquiry slip ▲

RAYMOND

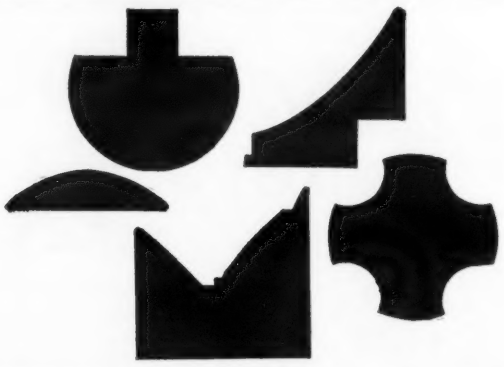
Lightweight Hand Pallet Truck

Frees power trucks for stacking and continuous operation. Invaluable for intermittent handling on docks, trucks, elevators, etc. Easy rolling, operates in tight spots. Completely hydraulic. Built for years of use and abuse.

Capacity: 2,000 and 3,000 lbs. Send for bulletin.

The RAYMOND CORPORATION
4120 Madison St., Greene, New York

For more details circle NED-111 K1 on enclosed inquiry slip



REDUCE MACHINING COSTS
with Vulcan-Kidd Special Shapes

Eliminate waste metal and lower machining costs. Modern equipment and advanced techniques produce special shapes up to 1" in cross section with tolerances as close as .0005". Vulcan-Kidd Special Shapes are available in a wide range of carbon, alloy and tool steels. Circle 112 for descriptive bulletin, or write: H. K. Porter Company, Inc., Room 1627, Porter Bldg., Pittsburgh 19, Pa.

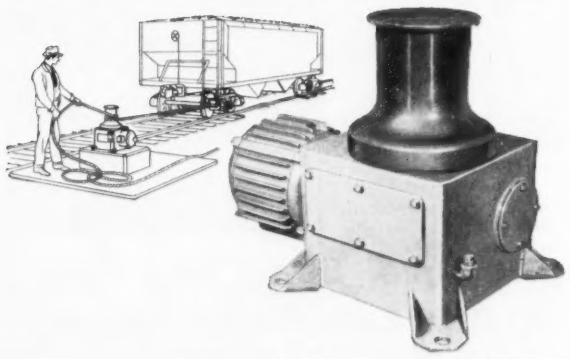
PORTER

WRITE NOW FOR FREE BULLETIN

VULCAN-KIDD STEEL DIVISION
H. K. PORTER COMPANY, INC.

For more details circle NED-112 K1 on enclosed inquiry slip

ALL-NEW! ALL-STEEL!
Link-Belt capstan-type car spotter



HIGHER LOAD RATINGS—(6000-lb starting pull, 3000-lb running pull), compact design—yours in Link-Belt's new all-steel 5-hp car spotter. Cam-type backstop holds cars on incline if power fails. Two models: 50A (shown)—flange-mounted motor integral with unit . . . and 55A—foot-mounted motor bracketed to housing. One man can pull up to three 50-ton RR cars. Write for complete details on car spotters and pullers. 15,745

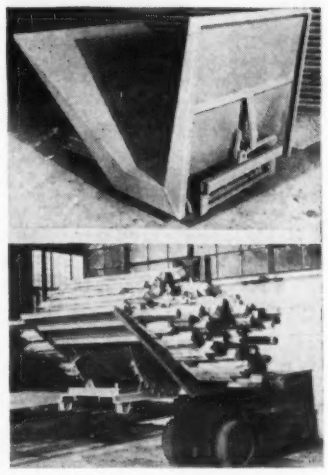
LINK-BELT

CAR SPOTTERS AND PULLERS

Link-Belt Company: Prudential Plaza, Chicago 1, Ill.

For more details circle NED-113 K1 on enclosed inquiry slip

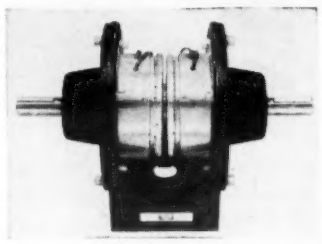
OPEN-SIDE DUMPING HOPPER
for handling long material



Efficient handling of random lengths of timber, bar stock, pipe, rod, and other awkward pieces is possible with this open-side self-dumping hopper. Tripping a lock handle at the rear makes it dump automatically, and it returns to upright locked position when empty. Units are mounted on skids for easy handling by fork truck, but they can be equipped with casters. They are made of reinforced 3/16-in. thick metal in widths from 3½ to 8 ft. • **Roura Iron Works, Inc.**, 1401 Woodland Ave., Detroit 11, Mich.

For more details circle NED-114 K1 on enclosed inquiry slip

CLUTCH-BRAKE PACKAGE
electric unit is preassembled



Up to several hundred machine cycles per minute can be accomplished with the Electro-Pack clutch-brake when used with a continuously running electric motor or other power input. The pre-aligned, preassembled package for fractional horsepower duty cycle applications combines an electric clutch and an electric brake with input and output shaft extensions. Drive can be offset coupled through gears, belts, or chains, or in-line mounted between drive and driven shafts. Heavy duty prelubricated double bearings are outboard mounted, away from heat sources, and wide spread to maintain alignment with heavy loading. Three sizes are rated at 10, 60, and 240 lb-in. static torque for maximum shaft speeds of 10,000, 7500, and 5000 rpm, respectively. Prices are $132, $174, and $236. • **Warner Electric Brake & Clutch Co.**, Beloit, Wis.

For more details circle NED-115 K1 on enclosed inquiry slip

Steel Shelving

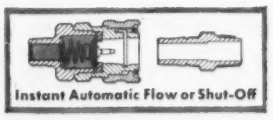
FREE Standard Pressed Steel Co., Columbia-Hallowell Div.—36-page Catalog 2791 discusses Erectomatic and Erectomatic clip-type adjustable shelving as well as fixed type shelving. Their many uses and space-saving advantages are illustrated. Both Erectomatic types can be independently positioned on 1½-in. centers, and beaded posts allow utilization of full shelf width.

For more details circle NED-116 K1 on enclosed inquiry slip

HANSEN
SERIES RL
QUICK-CONNECTIVE
RING LOCK COUPLING

...handles more air with minimum pressure drop

¼" to ¾" connections. All Series 2-RL Sockets and Plugs are interchangeable—likewise all Series 3-RL Sockets and Plugs. Eliminates any need for various size couplings in hook-up—makes it easy to keep stock of parts in balance—holds inventories to a minimum. Has fewer parts. Locking ring provides positive lock... tight fit... minimum wear. Equipped with automatic sleeve lock.



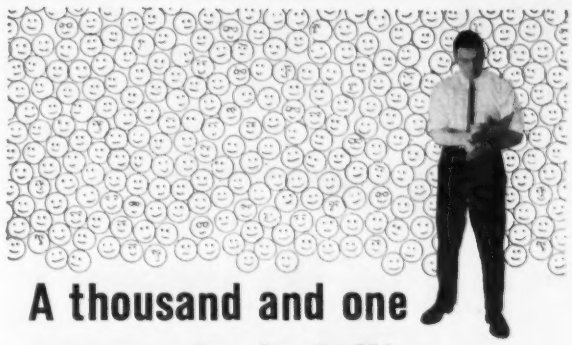
Write for the HANSEN CATALOG

—a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities ...See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-117 K1 on enclosed inquiry slip



A thousand and one reasons for installing USS Multigrip Floor Plate

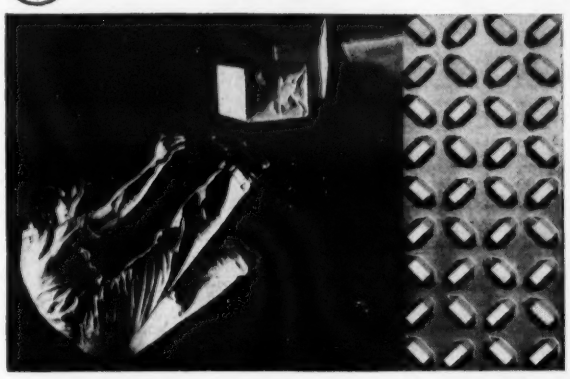
A thousand employees are a thousand reasons for installing USS Multigrip Floor Plate. You'll be protecting yourself, too. A rolled steel plate of quality, Multigrip gives positive traction, wet or dry. Protects floors with little wear or maintenance. Won't chip, splinter, or crack. You get fast delivery of any size from your Steel Service Center. For further information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

United States Steel Corporation • Tennessee Coal and Iron Division • Columbia-Geneva Steel Division • United States Steel Export Company

United States Steel USS TRADEMARK

For more details circle NED-118 K1 on enclosed inquiry slip

This mark tells you a product is made of modern, dependable Steel.



$100,000 for a fall! *It's true that slips cost more than Multigrip.* Companies have been sued for $100,000 or more because of falls. Fortunately the average cost is less than this but many settlements run over $1,000.

Falls account for about 1 in 5 industrial injuries, but you can help eliminate many of the danger spots by starting a definite program of installing USS Multigrip Floor Plate on machine shop floors, aisles, cat-walks, stairs and other accident-prone areas. Workers like Multigrip—and so does management. For information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

USS United States Steel TRADEMARK

For more details circle NED-119 K1 on enclosed inquiry slip

THIS FREE BOOK COULD HELP PREVENT AN ACCIDENT WHERE YOU WORK

United States Steel
525 William Penn Place
Pittsburgh 30, Pennsylvania

Please send me ____ copies of your free booklet, "USS Multigrip."

Name _____
Firm _____ Address _____
City _____ Zone ____ State _____

United States Steel USS TRADEMARK

For more details circle NED-120 K1 on enclosed inquiry slip

LOW PRESSURE, REUSABLE COUPLINGS for Styles "PR" and "PQ" Hose

These easily applied, hard gripping, low pressure couplings make better, faster, surer connections for hundreds of low pressure applications in the industrial and construction fields.

Put a few drops of oil in the hose, push it over the stem until it seats inside the protective cap and—presto—you have a blow-off proof connection that will withstand pressures to 250 psi!

Anchor Hold-Fast Low Pressure, Reusable Couplings can save you time and money! Catalog 304 gives complete specifications—write for it.

Andy Anchor says: "Your Anchor representative is a qualified specialist who can help with your hydraulic plumbing problems."

ANCHOR Coupling Co. Inc.
367 North Fourth St., Libertyville, Ill.
Branch Plants: Dallas, Texas; Plymouth, Mich.

For more details circle NED-168 K1 on enclosed inquiry slip

have you met
GRIPCO GUS ?...

If not, there are three reasons why meeting him could prove particularly profitable: (1) he's an expert fastener engineer with a penchant for solving problems; (2) he has 56 years' worth of fastener tricks up his sleeve; (3) his services are free and readily available right in your own backyard.

There are more than two score of "GRIPCO* GUSes" serving friends and customers of the Grip Nut Company coast to coast. These are not just "nut hawkers." Each and every one is a trained technician first and a salesman second. As our only representatives, you can be sure they are hand-picked, heavily-trained, and fully equipped to serve your fastener needs with deference and dispatch.

You'll find your GRIPCO GUS listed (in the yellow pages) under Bolts & Nuts as the GRIPCO representative.

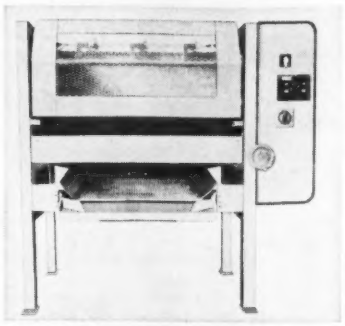
GUS' GANG: Toplock and Centerlock Nuts, Open and Closed End Cap Nuts, Clinch Nuts, Pilot-Projection Weld Nuts, Countersunk Weld Nuts, Tab Weld Nuts, Flange Nuts, Hex-Finished and Heavy Nuts, Washer Nuts, Self Piercing Clinch Nuts. Specials of every description, 20-page Catalog on request (see GUS).

*GRIPCO is a registered trademark of Grip Nut Co.

GRIP NUT COMPANY | Subsidiary of Heli-Coil Corporation, Danbury, Conn.
710 Maple Ave. • South Whitley, Ind. • Phone: South Whitley 723-5111

For more details circle NED-169 K1 on enclosed inquiry slip

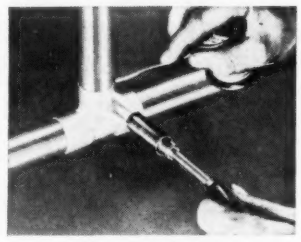
BARREL FINISHING MACHINES for deburring and microfinishing



Capacities from 4 to 20.7 cu ft in one to four compartments are available in the Combine line of barrel finishing machines. Deburring, microfinishing, and similar processes are performed in the units which afford power driven screen separation. Speed is variable from 10 to 36 rpm, and screen traverse movement is adjustable from 0 to 1½ in. Separating screen oscillates 350 cycles per minute and has removable screens in standard mesh sizes. • **Rampe Mfg. Co.**, 14915 Woodworth Ave., Cleveland 10, Ohio.

For more details circle NED-170 K1 on enclosed inquiry slip

COPPER PIPE FITTINGS cleaned, tinned, and prefluxed



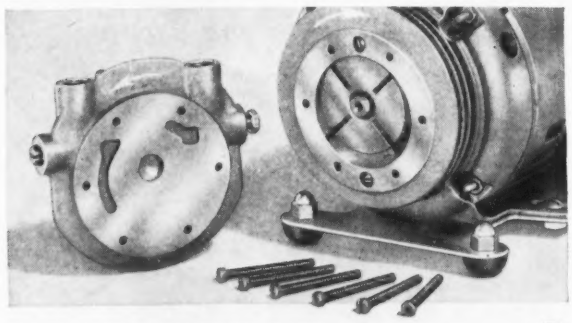
Cast bronze and wrought copper Color-Guard fittings for copper piping systems are chemically cleaned of oxidizing elements, protected with a micro-thin coating of tin, and prefluxed to speed sweating. Tin coating prevents copper from oxidizing and promotes capillary action in solder flow. Various types and sizes are offered. • **Nibco Inc.**, 500 Simpson St., Elkhart, Ind.

For more details circle NED-171 K1 on enclosed inquiry slip

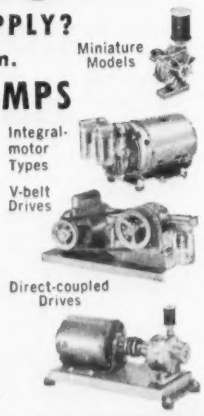
SMALL PARTS CABINETS have 6, 12, or 24 bins

Over each high strength glass front of the UC portable metal storage cabinets is a slot for attaching identification label. Suited for storage of small parts or samples, the cabinets have 6, 12, or 24 bins measuring 3 x 4½ x 3½ in. Each has a removable divider and is spillproof to prevent accidental pull-out. Welded steel units have a slotted back for flush mounting between wall studs, or they can be used on bench or shelf. The 24-bin model measures 4 x 15⅜ x 29 in. high and sells for $18.95. • **Bowers Mfg. Co.**, 105 Michigan St., Toledo 2, Ohio.

For more details circle NED-172 K1 on enclosed inquiry slip



NEED AN OIL-FREE AIR SUPPLY?
Select sizes from .35 up to 24 c.f.m.
GAST OIL-LESS* AIR PUMPS



These Oil-less Air Compressors and Vacuum Pumps offer you:

1. Absolutely oil-free air delivery.
2. No lubrication required — no need to arrange access for oiling.
3. No oil to buy, no time spent in oiling.

Carbon vanes in rotor lubricate themselves. Ball bearings are grease-sealed for life and located outside pump chamber. Pressures to 10 p.s.i.g., vacuum to 20" Hg.

*Lubricated models also available.

WRITE TODAY FOR "OIL-LESS" BULLETINS.

AIR MOTORS • VACUUM PUMPS • COMPRESSORS
GAST MANUFACTURING CORP.
P.O. BOX 117-R, BENTON HARBOR, MICHIGAN

For more details circle NED-173 K1 on enclosed inquiry slip

GO GRIND-O-FLEX!

Literally hundreds of foremen, owners, superintendents, and users have taken the trouble to voluntarily tell us that Grind-O-Flex has saved them time and money . . . has done a wide variety of jobs much better than anything else they had tried — **and at a much lower cost!**

More and more shops of all kinds are now standardizing on Grind-O-Flex . . . It seems once Grind-O-Flex is tried, they won't have anything else!

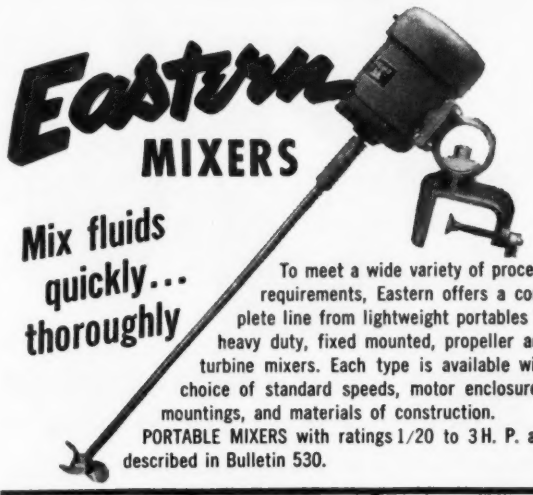
Amazingly simple and easy to use, Grind-O-Flex wheels mount to any motor shaft or power tool, are available in several models and types of abrasives.

If you don't have Grind-O-Flex in your shop — you're working too hard! Why not get the facts? Just write for Bulletin CH-11. (Distributor Inquiries invited.)

MERIT PRODUCTS, INC.
UPton 0-4827 | 3691 Lenawee Ave., Los Angeles 16, Calif.

For more details circle NED-174 K1 on enclosed inquiry slip

Eastern MIXERS



Mix fluids quickly... thoroughly

To meet a wide variety of process requirements, Eastern offers a complete line from lightweight portables to heavy duty, fixed mounted, propeller and turbine mixers. Each type is available with choice of standard speeds, motor enclosures, mountings, and materials of construction.

PORTABLE MIXERS with ratings 1/20 to 3 H. P. are described in Bulletin 530.

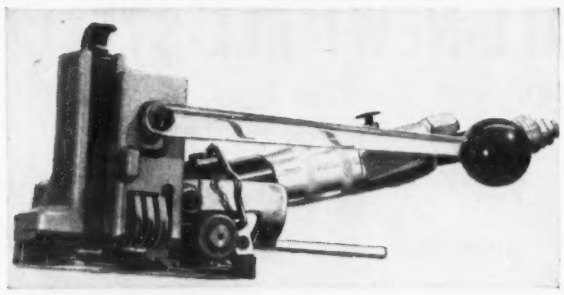
Handle the extra heavy-duty jobs in big tanks. Sizes ¼ to 30 H. P. Send for Bulletin 620.

Designed for heavy-duty applications requiring agitators from ¼ to 10 H.P. Send for Bulletin 620.

Range of ¼ to 40 H. P. solves many special mixing problems. Send for Bulletin 1210.

EASTERN INDUSTRIES, INC.
Mixer Division, Dept. N, Norwalk, Connecticut

For more details circle NED-175 K1 on enclosed inquiry slip



New Flat Strap Pneumatic Stretcher Tensions, Seals and Cuts Strap in Less Than a Second

This tool will tension, seal and cut properly applied flat strap in less than a second. Fast, easy strap loading. Seals feed automatically. Operating handle completes seal and cuts strap. Tool weighs only 12½ lbs. Built-in suspension brackets for fast, easy handling. Demand to see this tool. *Full details.* Circle the reader service card, or write:

A. J. GERRARD & COMPANY | STRAPPING MATERIALS
410 East Touhy Avenue • DES PLAINES, ILLINOIS

For more details circle NED-176 K1 on enclosed inquiry slip

SAVE CONVEYOR BELTS!
with a STEPHENS-ADAMSON
BELT CLEANER

WRITE FOR BULLETIN 258

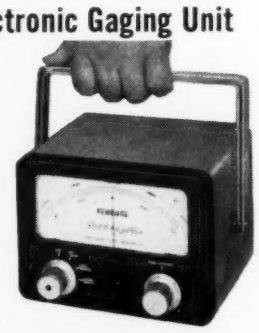
Check these features

- Inexpensive, but most effective belt cleaner ever developed.
- Removes wet, dry or sticky material from belt.
- Prevents material from being ground into belt.
- No messy dribble to be cleaned up.
- Will not injure belts or catch on splices.
- No moving parts—requires no drive.
- Easy to install and operate
- Adjustable — fits any size conveyor.

S-A
STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

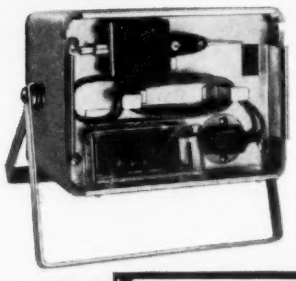
For more details circle NED-177 K1 on enclosed inquiry slip

electro-probe
Low Cost, Portable Electronic Gaging Unit
NEW!



Now more compact, more versatile, easier to use. Many new features.

- Feather-light touch
- New contact tip design
- Fast zero-setting



- Battery life quadrupled
- Improved meter visibility
- Completely self-contained

For demonstration or brochure, write
FEDERAL PRODUCTS CORP.
11710 Eddy Street
Providence 1, Rhode Island

Ask FEDERAL First
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

For more details circle NED-178 K1 on enclosed inquiry slip

GOODYEAR

Solid Hit!

Rolling up savings in the toughest shop service are rugged Goodyear Pressed-on Solid Tires. Here's why:

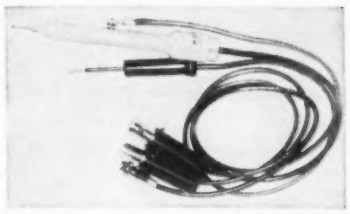
1 Extra-thick tread cushions loads—reduces truck and floor maintenance.
2 Tougher rubber endures chipping, cutting—for longer life on the job.
3 Less friction, smoother starts, easier rolling, help conserve power.

Check your Goodyear dealer today for more facts on cost-cutting Goodyear Solid Industrial Tires. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind

For more details circle NED-179 K1 on enclosed inquiry slip

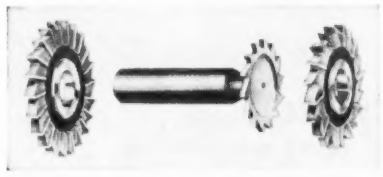
PENCIL WELDING TOOL
makes pin-point welds from one side



Small, pin-point welds are made entirely from one side of work surface by the 6-oz VTA pencil probe welding handpiece. Furnished as a set, tool includes both a pressure sensing weld probe and a ground probe. It is adjustable to fire weld energy at preset pressures ranging from ½ to 5 lb, assuring consistent quality on hard-to-get-at thin metal applications. Three feet of cable with Camlock B-002 plugs is supplied with tool at price of $75. • **Hughes Aircraft Co.,** Vacuum Tube Products Div., 2020 Short St., Oceanside, Calif.

For more details circle NED-180 K1 on enclosed inquiry slip

MILLING CUTTERS
widths from 0.015 to 1.025 in.



Widths ranging from 0.015 to 1.025 in. in 0.001-in. increments are available in the Deci-Mill line of high speed steel milling cutters. Shank style mills are made in ½ to 1½-in. diameters, and arbor styles in 3 and 4-in. diameters. Arbor cutters are either the side-milling or stagger tooth side-milling type. Emergency 1-day delivery service is offered. • **QT Tool Co.,** 1000 R St., Bedford, Ind.

For more details circle NED-181 K1 on enclosed inquiry slip

RESIN SPRAY GUN
mixes reactive resins, hardeners

Urethane foam, liquid epoxy, and liquid polyester resins, when fed from a metering system, are mixed and dispensed with hardeners by the Turvort gun. When equipped with the proper spray tips, gun performs airless spraying of multi-component resin materials. Applications include dispensing and spraying of urethane foams for molded parts, insulation, sound absorption, sandwich panels, and packaging; spray-up molding of epoxy glass fiber or polyester Fiberglas to make boats and molded items; and heavy resin spray coating with polyesters and epoxy resins for environmental protection and decoration. • **Leal Corp.,** Box 53, Oaklyn, N. J.

For more details circle NED-182 K1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1 Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2 Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3 Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind
Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-183 K1 on enclosed inquiry slip

2956

PROGRESSIVE DIE MAKERS . . .
Exclusively Yours!

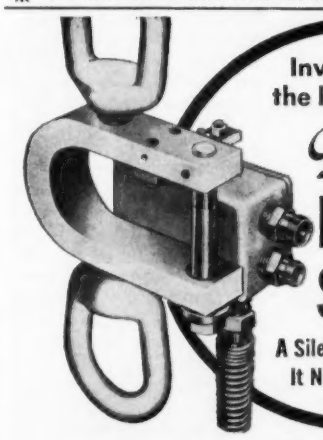
HAMILTON TOOL

A portable device for maintenance, fitting, and testing of dies. Increases accuracy and reduces costs invariably. Install it and change your competitive situation overnight. Be able to under bid competition . . . and yet show a profit.

Bulletin No. 2956 gives complete details. Ask for it. FREE!

THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

For more details circle NED-184 K1 on enclosed inquiry slip



Investigate the life-saving
Dillon DYNA-SWITCH
A Silent Watchman It Never Sleeps!

- Stops hoist & crane overloading
- Automatically cuts off power to motor when load exceeds pre-set weight.
- Can also ring bells, operate warning lamps, etc.
- Assures protection for personnel & equipment
- Easy to install. Hook models optional.
- Lightweight, compact, dead accurate.
- Working range 500 to 20,000 lbs.
- Will flex millions of cycles without losing resiliency.

YOURS FREE! Illustrated brochure and low price list. Write today!

W. C. Dillon & COMPANY, INC.
Dept. 119
14578 Keswick St.
Van Nuys 80, Calif.

For more details circle NED-185 K1 on enclosed inquiry slip

GOODYEAR

NEW Deep-Tread Pneumatic!

New Cross-Rib Pneumatic Industrial Tires bring you a new premium in performance. You get:

1 The same extra-deep tread design used on Hi-Miler Cross-Ribs—famed for extra mileage and superior traction in highway hauling service.
2 Scientifically toughened tire rubbers — unsurpassed for resistance to cutting—gouging—hard wear.
3 Exclusive 3-T Processed Cord body—triple-tempered for triple-toughness at a precise Tension and Temperature for an exact Time.

Top traction, extra long life — both are yours in the great new Cross-Rib Pneumatic Industrial Tire. Now available in 6.50 x 10 and 7.00 x 12 sizes. See your Goodyear Dealer. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear Truck Tires than on any other kind
Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-186 K1 on enclosed inquiry slip

NOW

DYNAPAR* drift-free digital control and instrumentation for any production process

Add accuracy — the profit dimension — to your automated production process with drift-free Dynapar Digital Control and Instrumentation. Ideal for automatic cutting-to-length . . . batch counting and sequencing . . . coil winding . . . machine tool position indication . . . tape and card programmed control . . . and many other applications.

Transistor circuits assure long-life. There is no drift — no need for calibration or adjustment. Digital systems eliminate data distortion. Accuracy is finite and not subject to variation of physical parameters, thus minimizing the danger of compounding error into costly spoilage, waste, or extra handling.

Call your Louis Allis District Office, or write to The Louis Allis Co., 436 E. Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

*Dynapar Corporation is the electronic subsidiary of The Louis Allis Co.

DD-233

For more details circle NED-187 K1 on enclosed inquiry slip

NEW GLACIER DU* DRY BEARINGS

Problem after problem arising from extreme temperatures and wear has been solved by using DU metal as a bearing material. It not only withstands higher velocities, but runs much cooler than other unlubricated bearings at comparable speeds. DU metal withstands from −450°F to +536°F, is applied without the need for temperature limiting adhesives. DU metal has a compressive strength of 51,000 p.s.i.

Apply DU material to appliances, automobiles, aircraft, farm and industrial machinery, office equipment. Standard bushings available for ¼" to 5" shafts; thrust washers for ⅜" to 2" shafts; hemispherical cups from ⅝" to 1½"; strip available for special fabrications.

GARLOCK

Find out more from your bearing manufacturer, or write for engineering catalog DU-458. Special Products Dept., Garlock Inc., P.O. Box 612, Camden 1, N. J.

*Trademark, Glacier Metal Company, Ltd.

For more details circle NED-188 K1 on enclosed inquiry slip

paging plus private 2-way intercom

New dual-function Executone units keep every man on your staff in instant contact . . . let you locate and talk with people anywhere in your plant or offices, or on the grounds . . . even in high-noise areas.

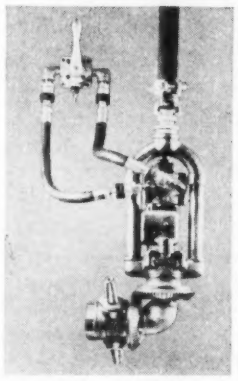
Executone Dept. G-7
415 Lexington Ave., N. Y. 17, N. Y.

Please send detailed information on paging and intercom for

☐ low-noise areas Name_____
☐ hazardous areas Company_____
☐ high-noise areas Address_____
☐ outdoor areas City_____ Zone____ State_____

For more details circle NED-189 K1 on enclosed inquiry slip

TANK CLEANING JET
head rotates in two circular paths

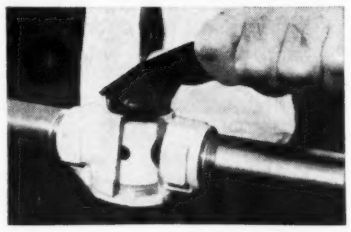


Lowered into a tank suspended only by its hose, this reversible hydraulic Rotor Jet will scrub the entire tank interior. Rotating head directs two solid high pressure liquid jets in a full spherical path—360 degrees horizontally and 360 degrees vertically. Operation is automatic and personnel never need enter the tank. If desired, head rotation can be reversed for a more thorough cleaning pattern. Jet movement can be speeded up or slowed down, and hot or cold rinses can be used. Head is rotated by 5-15 cfm of 60-psi compressed air, independent of jet pressure. High pressure stream to the cleaning heads can be supplied by any Sellers hydraulic jet feed which combines cold water and plant steam, and permits addition of detergent or sanitizing agent.

• **Sellers Injector Corp.**, 1600 Hamilton St., Philadelphia 30, Pa.

For more details circle NED-190 K1 on enclosed inquiry slip

TEFLON BALL VALVE
has capsule valve mechanism



Conical shaped Teflon "sealing capsule" is molded around the ball that controls the on-off action of the Con-O-Sphere industrial ball valve. Ball, handle stem, and sealing surfaces are molded as one unit for application to virtually every type of processing line handling gases, liquids, and slurries. All adjustments are made by tightening the base plate. Valve rebuilding, when necessary, is performed in about 3 min by replacing the capsule. Sizes ranging from ⅛ to 2 in. have pressure ranges from vacuum to 1440 psi. Ductile iron, carbon steel, bronze, aluminum, and several stainless steel bodies are available. No lubrication is required.

• **ACF Industries, Inc.**, W-K-M Div., Dept. 312, Box 2117, Houston 1, Tex.

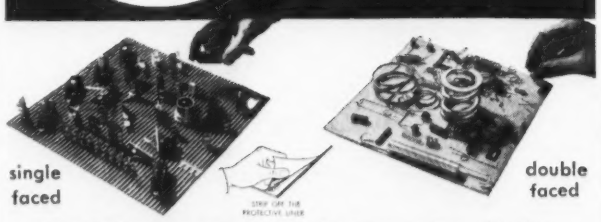
For more details circle NED-191 K1 on enclosed inquiry slip

Bellows Pumps

FREE Research Appliance Co. — Micro-Bellows heated and Teflon Micro-Bellows precision pumps detailed in 6-page brochure provide continuous service at constant rates for research and chemical laboratories. Rates range from 15 to 25,000 ml per hour for the former and from 30 to 25,000 ml per hour for the latter, depending upon size of bellows.

For more details circle NED-192 K1 on enclosed inquiry slip

new idea! ...for shipping, storing and handling of parts & products



Pres-Pak . . . a new concept for transporting, shipping, handling, storing, etc. Pressure-sensitive adhesive coated board provides a simple solution to a thousand problems in production, shipping and inter-plant transport. Ideal for electronic components, wireforms, springs, fragile abrasives, etc. Available in single and double faced corrugated and chip board with light, medium and heavy adhesive coatings.

Write today for prices and technical assistance on the modern Pres-Pak method.

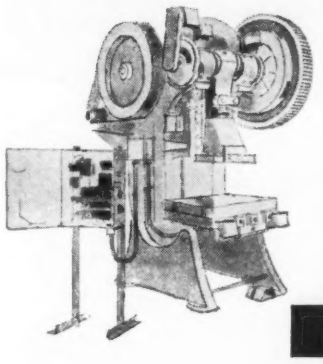
DEALER INQUIRIES INVITED, ALSO!

PRES-ON PRODUCTS CO.
FACTORY ROAD • ADDISON, ILLINOIS

For more details circle NED-193 K1 on enclosed inquiry slip

Gain higher speeds-lower maintenance-longer press life!

FEDERAL AIR CLUTCH PRESSES



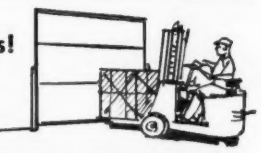
FEATURES:
Fail-safe Control
Dual Solenoid Valve
Air Filter Lubricator Pressure Regulator
Meehanite Castings
Anti Tie-down Push Buttons
Stranded Wire
Solderless Connections
Emergency Stop
Top Stop
Selector Switch
Guarded Foot Switch
Oil-tight Enclosures

FEDERAL open-back inclinable **PRESSES**

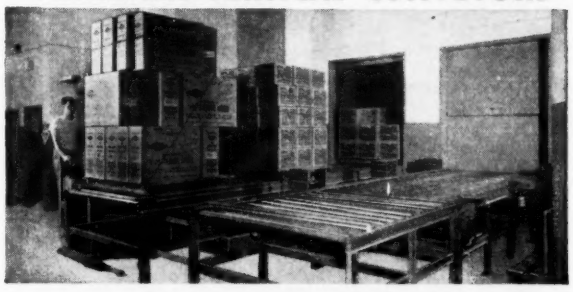
THE FEDERAL PRESS COMPANY of Elkhart
Dept 906, Elkhart, Indiana

For more details circle NED-194 K1 on enclosed inquiry slip

Waiting for Elevators Is Boosting Your Handling Costs! SAVE it with Weld-Bilt



Between-Floor Automatic **VERTICAL CONVEYORS**



You'll *double* your handling speed with Weld-Bilt Automatic Floor-to-Floor Reciprocating Vertical Conveyors . . . Avoid idle truckers, lost labor, equipment and production tie-up! Load manually or by conveyor. Switches, controls, brakes, platforms . . . all engineered to your needs. Minimum remodeling.

Write for Vertical Transportation Bulletin E-577 and save!

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street • West Bend, Wis.

For more details circle NED-195 K1 on enclosed inquiry slip

PRE-PRINT CONTAINERS for EXTRA PROFITS

.....use industrial's NEW AUTOPRINTER!

With the new, modern Autoprinter, you date, mark or code multiwall bags and containers as you need them! Completely automatic and electronically controlled, the Autoprinter works right with your production line . . at up to 3,000 impressions per hour!

Investigate how the Autoprinter can speed your operation, save container pre-printing and storage costs, and eliminate costly manual marking expense.

Write for details and catalog today. Dept. NED

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
655 BERRIMAN ST. BROOKLYN 8, N.Y. NI 9-3305

For more details circle NED-196 K1 on enclosed inquiry slip

Now, with more than fifty models in the Dustkop line—plus efficient accessory items—the odds are that a standard unit will solve your problem. Dustkop units solve other problems too. They're easier to install, save space and money and are virtually maintenance-free!

how to select a dust collector

This new brochure includes all basic information needed to select the right dust or mist collector for grinding, buffing, polishing and other types of service. Write for your copy. No obligation.

AGET Manufacturing Company
1396 Church St., Adrian, Michigan
DUSTKOP STOPS DUST

For more details circle NED-197 K1 on enclosed inquiry slip

ONE TRACTOR POWERS 30 GROUNDS MAINTENANCE TOOLS!

The versatile 6.6 HP Gravely Tractor powers a complete, year-round maintenance system! You cut costs two ways: (1) You buy only ONE power unit—with a choice of 30 quickly interchangeable Tools; (2) The Gravely does your jobs faster, easier, more economically! Standardize on Gravely — as many cost-conscious Plant Executives have! Gravely gives you more power at the Tool through direct, all-gear Drive. Simple, precise control, low-cost dependable power for year-round work. Tools that do your jobs more efficiently!

FREE CATALOG & CIRCULAR

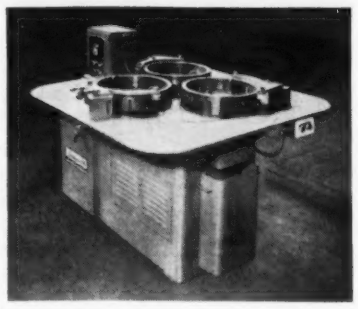
Find out why and how Gravely does the job best. Write TODAY for "How to Cut Grounds Maintenance Cost" and Gravely Catalog!

GRAVELY TRACTORS, INC.
Division of Studebaker Corporation
P.O. BOX 668-K DUNBAR, W. VA.

PERFORMANCE-PROVED SINCE 1922

For more details circle NED-198 K1 on enclosed inquiry slip

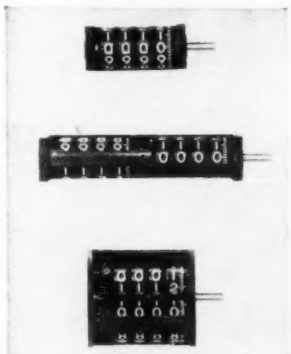
LAPPING MACHINE achieves 2 to 3-microinch finish



A new abrasive distribution system maintains the correct mixture of compound to vehicle on Model 36 Lapmaster, a redesigned version of the present 36 - in. Lapmaster lapping machine. Flow is adjustable to obtain maximum stock removal. The compact machine has a large, wrap-around work table that can be raised or lowered to be in the same plane with the lap plate. It is equipped with either three or four conditioning rings and is available with pneumatic lifts to facilitate raising and lowering of conditioning rings and/or pressure plates. The Lapmaster will lap parts of almost any shape, form, or material on a production basis within tolerances of one light band or less and with 2 to 3 microinch finishes. • **Crane Packing Co.**, Dept. ND-5, 6400 Oakton St., Morton Grove, Ill.

For more details circle NED-200 K1 on enclosed inquiry slip

DIGITAL READOUT COUNTERS in single, dual, and tandem models



Line of high speed, low torque, direct drive mechanical counters for digital readout applications consists of 108 different units in single, dual, and tandem models. Veederline counters are used in business machines, data processing equipment, integrators, computers, lab equipment, machine tool controls, totalizing devices, as well as variety of military equipment. They are offered with from two to seven figures in a wide variety of unit wheel configurations, white on black, including 0 to 9, 0 to 9 with 50 graduations, and 00 to 99 with 50 graduations. Counters have aluminum diecast frames, Delrin wheels and pinions, stainless steel shaft, and Oilite bearings. • **Veeder-Root Inc.**, 70 Sargeant St., Hartford 2, Conn.

For more details circle NED-201 K1 on enclosed inquiry slip

Solving Adhesive Problems

FREE Adhesive Products Corp.—Solutions to many difficult adhesive problems are offered in 12-page booklet entitled "Wanted! Adhesive Problems." Special adhesives are listed for floors and walls, leather and plastics, and packaging and labeling. These include foam cements, bookbinding and flocking adhesives, contact cements, epoxies, polyesters, and silicone compounds.

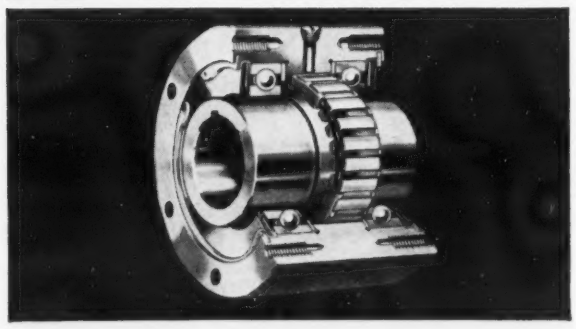
For more details circle NED-202 K1 on enclosed inquiry slip

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

For more details circle NED-204 K1 on enclosed inquiry slip

For more details circle NED-205 K1 on enclosed inquiry slip



Higher over-running speeds with Formsprag HPO CLUTCHES

Exclusive chromium-carbide alloy "Formchrome" sprags and new precision retainer permit up to *30% higher operating speeds* or up to *70% longer clutch life.*

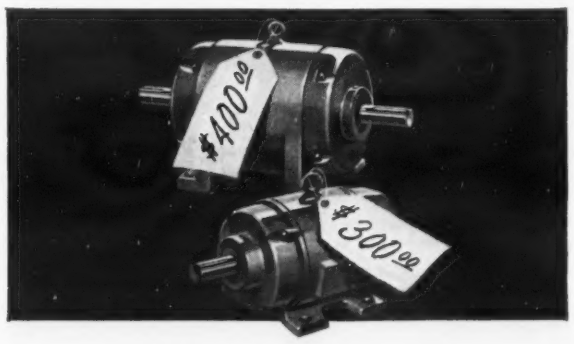
- More capacity for a given size and weight of clutch.
- Full complement of sprags means fewer internal stresses.
- Rated torque capacities 140 to 13,500 lbs. ft.
- Bore sizes .500" to 6.000".

Write for Formsprag Catalog 105B

9912

FORMSPRAG COMPANY
Precision Power Transmission Products
23595 HOOVER ROAD, DEPT. 116 WARREN (DETROIT) MICHIGAN

For more details circle NED-199 K1 on enclosed inquiry slip



Cut Motor Costs with "No Load" Centrifugal Clutches

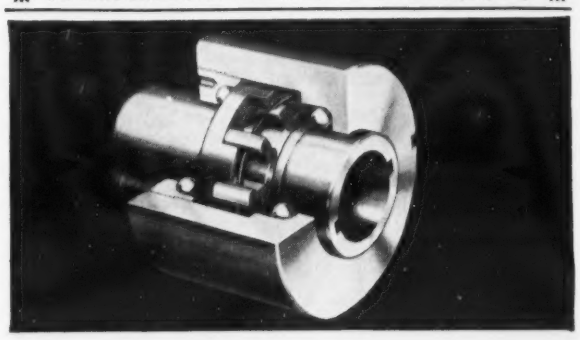
- On high inertia loads eliminate costly low voltage starting equipment – save with smaller, general purpose motors.
- New design "A" Series clutch couplings are available for direct drive, shaft-to-shaft installations.
- Standard models cover fractional hp. to 3,000 hp. range . . . bore diameters .500" to 8.375".
- Automatic clutch disengagement gives positive protection from jamming or over-load.

Write for Centrifugal Clutch Catalog

9904

FORMSPRAG COMPANY
Precision Power Transmission Products
23595 HOOVER ROAD, DEPT. 122 WARREN (DETROIT) MICHIGAN

For more details circle NED-203 K1 on enclosed inquiry slip



Positive Positioning RIL reverse locking clutches

Positive positioning of load is assured because torque can be transmitted from power source to load in either direction but not from load to power source.

Match Model to Need—Select torque capacity in 40 lbs. in. to 30,000 lbs. in. range and bore size from ¼" to 2½" range from standard models available.

Typical Applications—Positioning on machine tools, timing drives, radar antenna drives, etc., are typical positive positioning applications.

Write for Catalog RL-101

9913

FORMSPRAG COMPANY
Precision Power Transmission Products
23595 HOOVER ROAD, DEPT. 118 WARREN (DETROIT) MICHIGAN

For more details circle NED-206 K1 on enclosed inquiry slip

the exclusive

FLEX-A-FOAM
DUST MASK
(no other product like it . . . anywhere)

Here's everything that management and worker alike could possibly want in a dust respirator!

1. **Form-fitting design:** Self-adjusting to any size and shape of face without pressure or irritating discomfort.
2. **Attractive styling:** Smartly designed to suit the most discriminating wearer.
3. **Filtering efficiency:** Filters non-toxic dusts 100 times smaller than the eye can see.
4. **Easy-breathing comfort:** Easier to breathe through and talk through than an ordinary pocket handkerchief.
5. **Feather-like weight:** Weighs only 1 ounce complete.
6. **Simplicity and economy:** Only 4 tough, long-wearing inter-locking parts — all washable. Pure latex filter outwears throw-away type more than 100 to 1.

No wonder FLEX-A-FOAM is the one dust respirator workers welcome and WEAR!

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM® DUST MASK

FLEXO PRODUCTS, INC. • Westlake, Ohio

▲ For more details circle **NED-207 K1** on enclosed inquiry slip ▲

The most complex cleaning jobs are easy . . . with Westinghouse ultrasonic cleaning equipment

Whatever your cleaning problem . . . whether for intricate new products or a variety of production parts . . . the job is easier with High-Power Westinghouse ultrasonic cleaning equipment.

It's faster and more efficient than other cleaning methods. No hard scrubbing . . . no harsh solvents. Westinghouse ultrasonic cleaning equipment reaches into the tiniest crack . . . blasts away clinging soils from complex assemblies . . . usually in seconds.

Westinghouse ultrasonic generators incorporate advanced solid state trinistors to achieve greater reliability, higher efficiency, and smaller size. The new Westinghouse Magnapak transducers deliver twice the usable power of other transducers for the same electrical input. Standard tank sizes: 1½ to 16 gallons, or custom sizes.

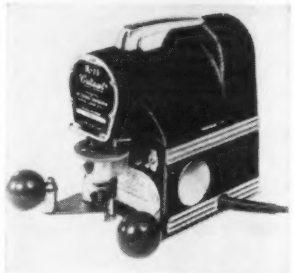
Ask the Westinghouse Industrial Electronics Department, 2519 Wilkens Ave., Baltimore 3, Maryland, for information on how ultrasonics can solve your cleaning problem. You can be sure . . . if it's Westinghouse.

J-35024

Westinghouse

▲ For more details circle **NED-208 K1** on enclosed inquiry slip ▲

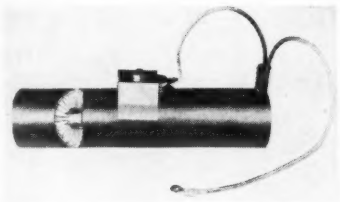
PORTABLE SHEET CUTTER
cuts wood, plastic, metal, linoleum



Any design or shape can be cut in various sheet materials, including wood, plastic, metal, linoleum, and composition, by this Cutawl portable high-speed cutter. It is particularly suited for making templates, patterns, gaskets, linoleum inlays, and production samples. Unusual swivel head allows 360-degree traverse of any pattern or design without changing direction of the cutter. Since cutter makes its own starting hole, cutting can be started anywhere. It will cut perfect circles as small as ¾ in. or as large as 48 in. Stroke and speed are adjustable. Cutting chisels and saws are available for more than 50 different materials, ranging from thin metal to 1½-in. soft sheet. • **Cutawl Corp.**, Bethel, Conn.

▲ For more details circle **NED-209 K1** on enclosed inquiry slip ▲

GAS-LIQUID HEATER
supplies continuous 600° F heat



Inner fin construction in copper or aluminum of Model FH gas-liquid heater assures uniform heat distribution in continuous operation at temperatures up to 600° F. Offered in 9 to 30-in. lengths in ratings from 2500 to 9400 w using 115-230 v single-phase power, the core heater is installed as part of process piping. It has thermostatic over-temperature protection. • **Lytron, Inc.**, 42 Brookford St., Cambridge 40, Mass.

▲ For more details circle **NED-210 K1** on enclosed inquiry slip ▲

FLEXIBLE CONNECTORS
for conveying gases and fluids

Misalignment is offset, expansion movement is absorbed, and vibration is dampened by use of the UC3 all metal flexible connector. It is designed for con-

veying gases and fluids under temperatures up to 750° F when made of bronze and carbon steel. Stainless steel versions are suited for 850 and 1400° F. Connector has a braided outer cover and a corrugated inner tube for combined flexibility and strength. Stocked units are available in a range of couplings and flanges. • **Universal Metal Hose Co.**, 2133 S. Kedzie Ave., Chicago 23, Ill.

▲ For more details circle **NED-211 K1** on enclosed inquiry slip ▲

UNDER PRESSURE FOR HIGHER PRODUCTION?

CMD

EXTREME PRESSURE
ANTI-SCORING
LUBRICANTS

WILL *DEFINITELY* give you fewer rejects, longer runs—NON-GALLING, EVEN at TWENTY TONS per square inch!

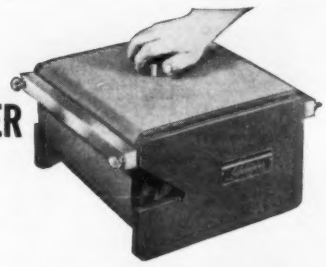
This most remarkable lubricant has been *proved* in laboratory tests as the *very best* for lathe centers, steady rests, thrust bearings, broaching, swaging, tapping and many new operations you may not think possible today!

Read how big industry has solved reject problems, longer runs at savings up to 81% over commonly used lubricants. Free booklet of testimonials, new uses, new lubricating facts. Write.

CMD® **CHICAGO MANUFACTURING & DISTRIBUTING COMPANY**
1928 W. 46th St. • Suite D-10 • Chicago 9, Ill.

▲ For more details circle **NED-212 K1** on enclosed inquiry slip ▲

4 reasons why the LAPMASTER portable polishing stand



Simplifies Polishing

Makes polishing much easier because it holds polishing paper taut and wrinkle-free . . . *always.* Provides replacement of worn paper with new section . . . *immediately.* Steel stage has been lapped to precision flatness to assure a perfect polishing surface . . . *forever.*

The Lapmaster Polishing Stand is ideally suited for polishing work pieces prior to inspection . . . in the experimental mechanical laboratory . . . and for small run polishing jobs.

Get further facts and details . . . Write for copy of Bulletin L-410.

Lapmaster® THE MACHINE THAT PUT PRECISION LAPPING ON A PRODUCTION BASIS

A PRODUCT OF
CRANE PACKING COMPANY
6411 OAKTON STREET
MORTON GROVE, ILL. *(Chicago Suburb)*
In Canada:
Crane Packing Co., Ltd., Hamilton, Ont.

▲ For more details circle **NED-213 K1** on enclosed inquiry slip ▲

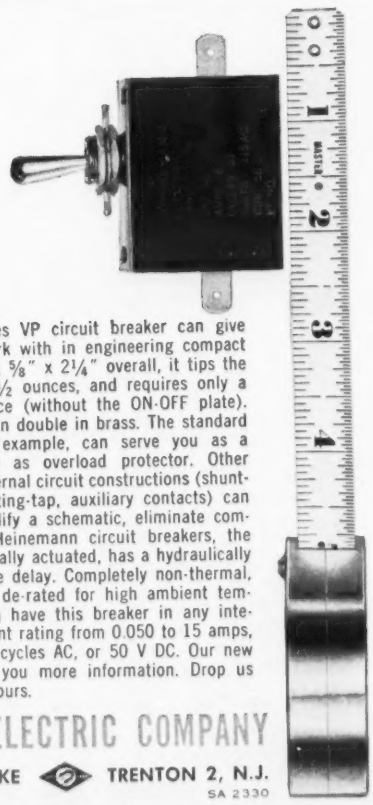
Safety Knives

Hyde Safety Knives help protect your workers' fingers from nasty cuts and loss of time on the job. Safety guards are available on the popular Square Point Knives and heavy duty butcher type knives. Write for descriptive catalog.

HYDE **HYDE MANUFACTURING CO.**
SOUTHBRIDGE, MASS., U.S.A.

▲ For more details circle **NED-214 K1** on enclosed inquiry slip ▲

Try this breaker for size



Heinemann's new Series VP circuit breaker can give you elbow room to work with in engineering compact equipment. Just 2½" x ⅝" x 2¼" overall, it tips the scales at a piddling 1½ ounces, and requires only a half-inch of panel space (without the ON-OFF plate). Yet, small as it is, it can double in brass. The standard series-trip model, for example, can serve you as a toggle switch as well as overload protector. Other models with special internal circuit constructions (shunt-trip, relay-trip, calibrating-tap, auxiliary contacts) can do even more to simplify a schematic, eliminate components ☐ Like all Heinemann circuit breakers, the VP breaker is magnetically actuated, has a hydraulically controlled, inverse time delay. Completely non-thermal, it doesn't have to be de-rated for high ambient temperatures. ☐ You can have this breaker in any integral or fractional current rating from 0.050 to 15 amps, for 110 V, 60 or 400 cycles AC, or 50 V DC. Our new Bulletin VP will give you more information. Drop us a line, and a copy's yours.

HEINEMANN ELECTRIC COMPANY
106 BRUNSWICK PIKE TRENTON 2, N.J.
SA 2330

▲ For more details circle **NED-215 K1** on enclosed inquiry slip ▲

King-Size Flo-master marks on everything

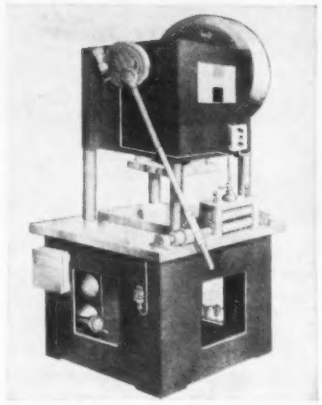
It's the world's only king-size *refillable* felt-tip marking pen. Designed especially for shipping room table and factory bench. Extra-large ink capacity. Takes replaceable felt tips up to 1" wide. Choose among 8 transparent ink colors. Try it. Only $4.00.

ESTERBROOK

CAMDEN 1, NEW JERSEY

For more details circle NED-216 K1 on enclosed inquiry slip

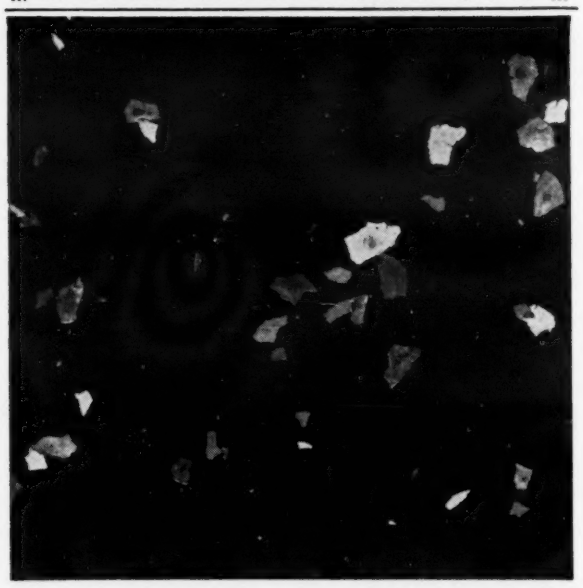
STAMPING PRESS
25-ton high production unit handles light to medium jobs



Many light to medium weight, long-run stamping jobs can be handled by Model 25B automatic stamping press rated 25 tons. Designed for high production run blanking, punching, shearing, forming and piercing, press is especially suitable for bulky jobs requiring large die areas. Actual dimensions are 20 x 12⅞ in. Key feature of this straight-side, four-post press is the cylindrical ram. Its maximum guiding surface insures accurate guiding of ram, punch, and die.

Press stops automatically in case of die jamming or misfeeding, and immediate automatic braking permits operator to attend several presses safely. Press takes up to 8¼-in. stock widths and operates at standard speeds of 100 to 400 strokes per minute. Other features include the enclosed crown, one-shot metered lubrication, 570-lb flywheel, and optional knockout bar. Prices start at $5290. • **Havir Mfg. Co.**, 444 N. Cleveland Ave., St. Paul 4, Minn.

For more details circle NED-219 K1 on enclosed inquiry slip



This is Mastipave...world's toughest low-cost floor covering. It stands up to heavy foot and wheel traffic. Cleans easily. Lasts for decades. Comes plain, decorated and with non-slip surface. Free folder is yours for the writing:

DEPARTMENT NE PABCO FLOOR COVERING DIVISION, FIBREBOARD PAPER PRODUCTS CORPORATION, 475 BRANNAN STREET, SAN FRANCISCO, CALIFORNIA

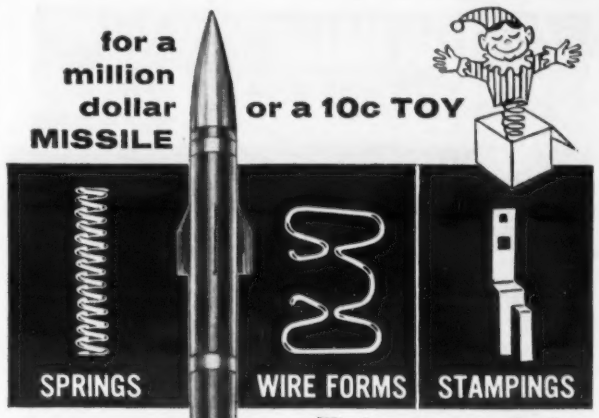
For more details circle NED-217 K1 on enclosed inquiry slip

OFFICE FURNITURE
includes ten desk top sizes

Variety of desks, modular work stations, and credenzas make up the Tempic 9 line of office furniture. Rigid desk construction makes possible shipping completely assembled. Features include knee-space drawer, leveling glides, and reference shelf with Plexiglas insert for telephone numbers, charts, etc. Ten top sizes are available for single and double pedestal desks and five top sizes for Mod U Ell or credenza units. They are 20, 30, and 36 in. deep and made in several lengths. Standard top is reinforced steel with a laminated plastic top. Self-edged plastic tops and wood tops in various veneers are also available. Auxiliary tables in 45 x 30-in. and 60 x 30-in. sizes and credenza units in several colors complete the line. • **Yawman & Erbe Mfg. Co.**, 1099 Jay St., Rochester 11, N. Y.

For more details circle NED-220 K1 on enclosed inquiry slip

for a million dollar MISSILE or a 10c TOY



Valuable FREE BROCHURE

Whether you require the close tolerance needed in a satellite—or the economical production necessary for a 10c toy . . . DUDEK & BOCK is your most dependable source for springs, wire forms and stampings. Years of know-how *quality control* guarantee you top performance at lower cost.

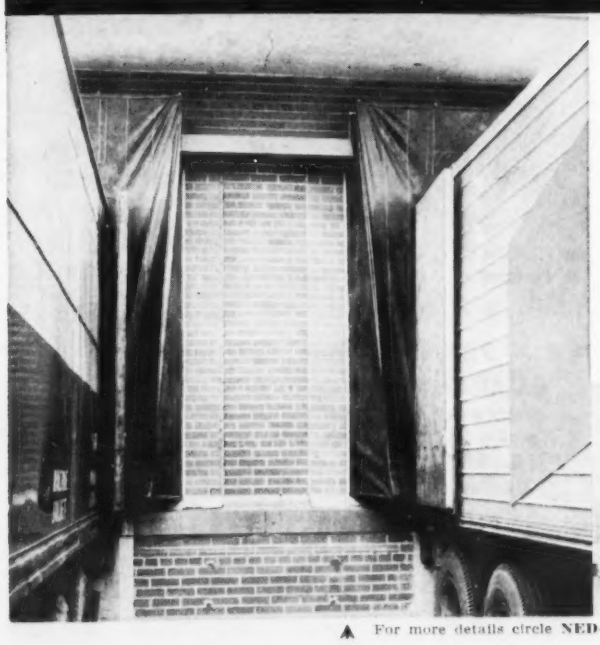
Phone DICKENS 2-1020 *for estimates and delivery dates*

DUDEK & BOCK
SPRING MANUFACTURING CO.
4014 W. GRAND AVE. • CHICAGO 51, ILL.

For more details circle NED-221 K1 on enclosed inquiry slip

The Economical Way To Give Your Dock Year 'Round Protection

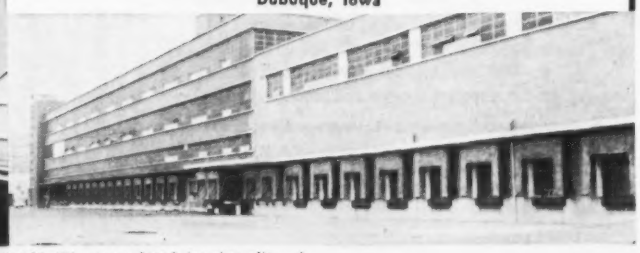
FROMMELT TRUCK DOCK SHELTERS



PROTECT PRODUCTS, PERSONNEL — SAVE ON HEAT OR REFRIGERATION BILLS WITH FROMMELT DOCK SHELTERS!

- PERMA-DOX Automatic Truck Dock Shelter
- SNUG-FIT Wrap Around Truck Dock Shelter
- 3-FFF Frommelt Foam Fit Door Pads
- Dock Curtains and Track
- Heavy, Rust-Resistant Steel Frames Covered With Fro-Prene Coated Fabrics That Are Fire-Resistant, Rot and Mildew Proof.
- Write For Free Illustrated Catalog Showing A Variety Of Frommelt Dock Shelter Installations!

FROMMELT
FROMMELT INDUSTRIES, INC.
Dubuque, Iowa



For more details circle NED-218 K1 on enclosed inquiry slip

BOSTITCH GOLDEN BELT BOX BOTTOMING STAPLER

- 4000 continuously fed, copper finished, wide-crown staples permit bottoming 1000 to 2000 boxes without reloading.
- Entire length of most boxes can be stapled in one straight pass through the machine because of deep 24-inch throat.
- Golden Belt staples have 1¼" crown width, leg lengths of ½", ⅝" or ¾" and they comply with rule 41 and all parcel post and overseas shipping regulations.
- Eliminates as much as 75% of reloading time.

Cut box bottoming costs. Have a Bostitch Economy Man—one of 350 working out of 123 U. S. and Canadian cities—show you how the Golden Belt can fit in your shipping room. An office near you is listed under Bostitch in your phone book. Call or circle our number on the Reader Service Card to receive free brochure.

Fasten it better and faster with BOSTITCH® STAPLERS AND STAPLES

690 Briggs Drive, East Greenwich, R. I.

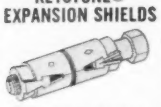
For more details circle NED-222 K1 on enclosed inquiry slip

NEW EXTRA VALUE* FASTENER LINE

DIAMOND BLUE-CUT SELF-DRILLING ANCHORS

*Exclusive Lectro-Temp Heat Treatment Assures "the Bite Plus the Grip."

KEYSTONE® EXPANSION SHIELDS

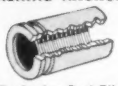


*Exclusive Nutstop Prevents Nut Pullout.

DIAMOND-P-® LAG SCREW SHIELDS

*Exclusive 4-Directional Expansion Fits Irregular Holes.

Red Seal® CALKING ANCHORS



*Exclusive Red Fibre Disc Keeps Dirt Out of Threads.

wing-ding HOLLOW WALL ANCHORS

*5 Times Greater Thread Area... No Stripping!

PLUS More Than 500 Other Items With "Built-In" Extras
PLUS Exclusive Pole Line Hardware

FREE SAMPLES
and Pocket Guide to Better Fastening
Send Request to:

DIAMOND

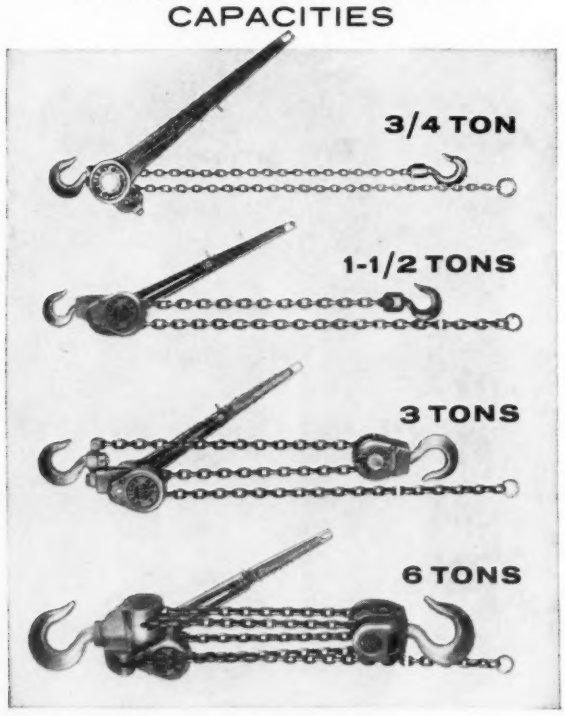
DIAMOND EXPANSION BOLT CO., INC. 502 North Avenue, Garwood, N. J.

For more details circle NED-223 K1 on enclosed inquiry slip

NOW...Made of Aluminum!

WRIGHT Type "C" Pull-A-Ways

IN ¾, 1½, 3 AND 6 TON CAPACITIES



For easier portability at no sacrifice in proved performance, Wright now uses aluminum alloy castings for the gear case, handle and covers on all models of the Type "C" Pull-A-Way. Hooks, load chain and chain sheave are made of alloy steel as before. Truly versatile performers on hundreds of quick hook-up jobs, Type "C" Pull-A-Ways offer other outstanding features such as: positive load brake that securely holds the load at any point, lifetime lubrication of all internal parts, blocked chain to fit the load sheave with greater accuracy. Weights: ¾ ton, 12½ lbs.; 1½ ton, 23½ lbs.; 3 ton, 36½ lbs.; 6 ton, 63 lbs.

Write to our York, Pa., office for Bulletin DH-56

WRIGHT HOISTS

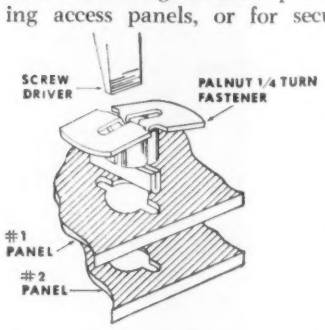
Wright Hoist Division • American Chain & Cable Company, Inc. ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-224 K1 on enclosed inquiry slip

QUARTER-TURN FASTENERS
spring type for blind fastening

One-piece, spring steel quarter-turn fasteners for blind attaching of back panels on appliances, latching access panels, or for securing reflectors to fluorescent light fixtures are offered for finger or screwdriver assembly. Both types are lightweight and self-retaining in the outer panel, and both have a barrel shank to keep fastener centered in the hole and to add shear resistance. The screwdriver-assembled type provides an almost-flush surface with the outer panel. • **Palnut Co.**, 61 Glen Rd., Mountainside, N. J.



For more details circle NED-225 K1 on enclosed inquiry slip

TEFLON-NYLON WIRE
usable over −55 to 120° C range

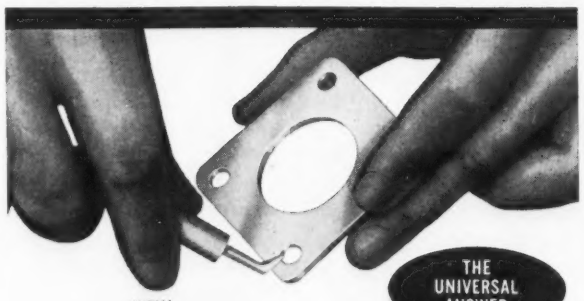
Suited for automatic wire wrap termination, Turbotemp Teflon FEP/Nylon wire has low capacitance and low dielectric constant, as well as minimum change over a wide range of frequency and temperature conditions. The tin-coated solid copper hook-up wire is insulated with Teflon and is jacketed with nylon. It is usable in electronic data processing, appliance, and other industries for continuous operation over a −55 to 120° C range at 300 v rms. Wire is available with solid color primary insulation and clear nylon jacket, or natural color primary insulation and pigmented nylon jacket to specifications. White primary insulation with one or two color tracers is also available. Continuous lengths up to 6000 ft are offered on drums. • **American Enka Corp.**, Brand-Rex Div., 31 Sudbury Rd., Concord, Mass.

For more details circle NED-226 K1 on enclosed inquiry slip

HEAT-SHRINKABLE TUBING
for slip ring applications

Heat-shrinkable Dacron-epoxy tubing for slip ring applications eliminates machining or splitting and bonding methods for installing slip rings. Grade HY 418 tubing with 1-in. ID shrinks 0.030 to 0.050 in. when heated to 150° C for 10 min and allowed to cool to room temperature. Tensile strength of tube is 8500 psi; compressive strength, 17,200 psi; water absorption, 0.18 per cent; and dielectric strength, 407 v per mil. Tubing is offered in ¼ to 48-in. ID sizes in wall thicknesses from 1/16 to 1 in., and in lengths to 36 in. • **Westinghouse Electric Corp.**, Micarta Div., Hampton, S. C.

For more details circle NED-227 K1 on enclosed inquiry slip



THE UNIVERSAL ANSWER

NEW SWIVEL-ACTION BURRQWIK HAND DEBURRING TOOL

PAYS FOR ITSELF *in one day!*

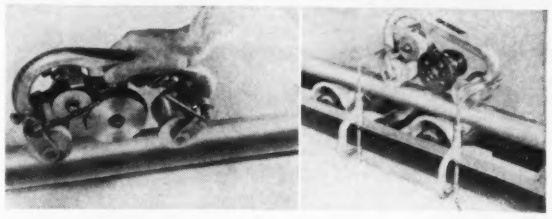
Deburrs 4 jobs for every 3 deburred with old-style tools. Patented-swivel-action leads blade along edges... no more nicks, scallops, or wrist and arm fatigue.
3 hardened high speed tool steel interchangeable blades—small blade for tubing and small holes—or larger blades for straights, radii and large tubing.
Use BurrQwick for all metals and plastics—for cut, punched, molded and processed edges.

UNIVERSAL METAL PRODUCTS Incorporated

931 VINELAND AVENUE • CITY OF INDUSTRY • CALIFORNIA

For more details circle NED-228 K1 on enclosed inquiry slip

BAR and TUBE PRINTER
for hand or conveyor use



Rolled by hand along rounds or flats, or mounted over conveyor rolls, this printer provides simple, economical identification code printing. Guide rolls adjust and center printing wheel for clear marking on metal or plastic ¼" diameter up.

Wheel accepts E-Z Set rubber type in single type characters or complete legend in one strip. Easily pressed into place, or stripped off for quick change.

Sponge rubber ink roll holds enough ink for 8 hours; easily interchanged for color code change.

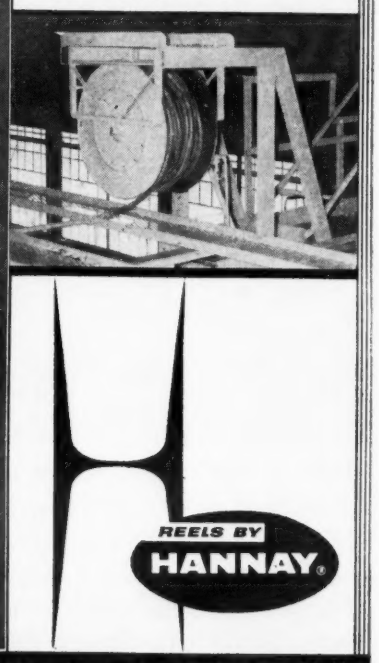
Lightweight magnesium frame, rugged construction; weight 7½ lbs. Write for literature, Model T-55.

PANNIER MASTER MARKERS
330 Pannier Bldg., Pittsburgh 12, Pa.

For more details circle NED-229 K1 on enclosed inquiry slip

SEND FOR THIS free illustrated brochure. Shows how hose reels speed production, increase hose life, boost safety and reduce costs wherever hose is used.

10 IDEAS FOR IMPROVED *INDUSTRIAL* HOSE HANDLING



CLIFFORD B. HANNAY & SON, INC., WESTERLO, N. Y.

For more details circle NED-230 K1 on enclosed inquiry slip

FREE CABINETS! Included at no extra cost with each complete or sectional order of the new DUNDICK DeLuxe Precision Pins

THE PIN WITH A MILLION USES

$1.25 per pin in lots of 10 or more in your choice of sizes.

• Core Pins • Gages
• Perforators • Set-up Pins
• 2" Long

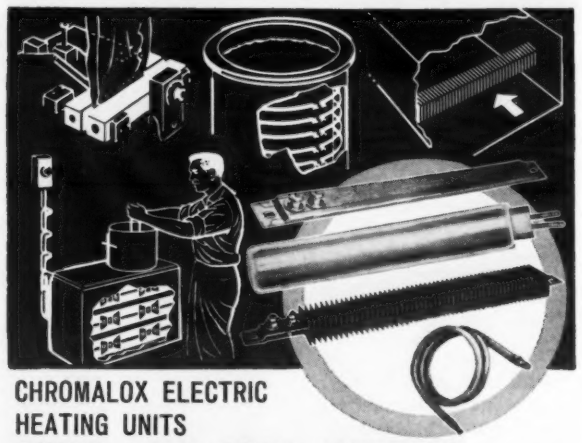
721 sizes—from .030 to .750

GUARANTEED ACCURACY within a tolerance of plus or minus fifty millionths

• Each cabinet complete with lacquered hardwood block. Contains properly identified and sized holes to hold pins.
• Heavy-duty all-steel construction.
• Cabinets interlock to form compact unit.

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

For more details circle NED-231 K1 on enclosed inquiry slip



CHROMALOX ELECTRIC HEATING UNITS

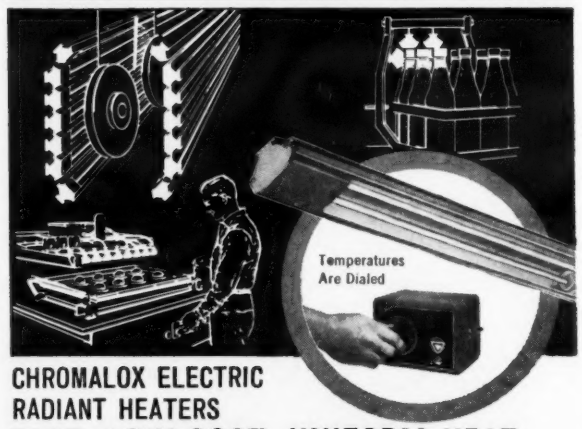
QUICK, LOW COST ANSWERS to your heating problems

Whether it's gases, liquids or solids you want to heat to exact temperatures . . . you'll find the easy and economical answers in Chromalox Electric Heaters. Thousands of units to choose from (mostly from stock) in ratings, voltages and sheath materials to meet working temperatures up to 1200° F.; manual or automatic thermostatic controls. Tell us your heating problem—our field engineers will come up with the answers.

WI-32 **Write for Idea and Fact-filled Catalog 60.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle NED-232 K1 on enclosed inquiry slip



CHROMALOX ELECTRIC RADIANT HEATERS

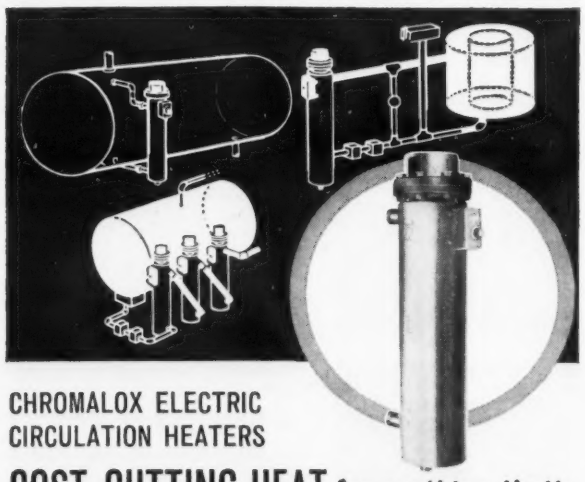
FAST, LOW COST, UNIFORM HEAT you dial the exact temperature you need

With Chromalox Far-Infrared Radiant Heaters, you can dial exact temperatures from 4 to 100% of heating capacity. Heat generated is uniform and absorbed with equal speed by all colors, textures, surfaces. Chromalox Far-Infrared is the ideal heat source for heating, baking, drying, curing, pre-heating. Compact, rugged heat sources of .7 to 15 kw, in heated lengths from 7½" to 14½'. Interlocking connectors and sliding mounting clamps and bolts simplify installation to fit work. Many sizes available from stock.

WI-26 **Send for Catalog 60.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle NED-233 K1 on enclosed inquiry slip



CHROMALOX ELECTRIC CIRCULATION HEATERS

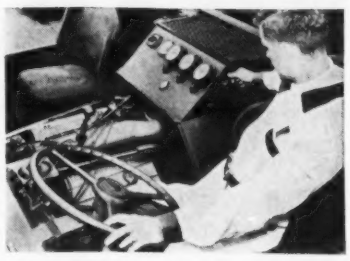
COST-CUTTING HEAT for anything that's piped. These compact, automatic, highly efficient jobside heating plants are widely used for heating, preheating and superheating. Temperatures to 1200°F and above easily, readily reached, accurately maintained. Heaters are quickly installed, with built-in thermostats and will give long dependable service with minimum attention. Many standard models in stock for immediate shipment. Special models built to meet special corrosive conditions and high-capacity requirements. **Send for Bulletin PE502.**

WI-13

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle NED-234 K1 on enclosed inquiry slip

MULTIFUEL ENGINES
12 engines rated from 20 to 650 hp

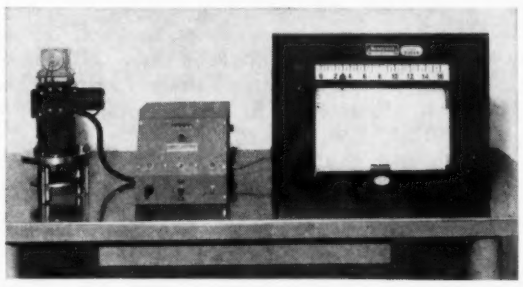


Any fuel in the gravity range between diesel fuel No. 2 and military combat gasoline, and including diesel fuel No. 1, jet fuels No. 3, 4, and 5, and kerosine can be used alone or in any mixture to power this line of multifuel engines. The compression-ignition engines are suited for use in mobile and stationary equipment. A compression ratio of 23 to 1 attains optimum output from any fuel. No adjustment is required when switching from one fuel to another. Line of engines is offered in 12 basic models and two cylinder sizes, with ratings from 20 to 650 hp. They are adaptions of standard V and in-line models of Series 53 and 71 commercial engines, and have many interchangeable parts. • **General Motors Corp.**, Detroit Diesel Engine Div., 13400 W. Outer Dr., Detroit 28, Mich.

For more details circle NED-235 K1 on enclosed inquiry slip

RECORDING ELECTRONIC MICROMETER
displays readings to 0.000010 in.

This precision electronic micrometer displays measurements to within 0.000010 in. on a five-digit counter and automatically plots the values on a chart recorder.



Readings are taken on a 1-min or any preselected time cycle. Micrometer head is temperature compensated. The head, control unit, and recorder may be remotely located from each other. System is well suited for automatic recording of small displacements over a long period of time, such as dilatometer measurements of material expansions at elevated temperatures. • **J. W. Dice Co.**, 16 Highwood Ave., Englewood, N. J.

For more details circle NED-236 K1 on enclosed inquiry slip

Concrete Drilling Manual

"How to Use the Roto-Imp" is titled of 20-page manual which illustrates and explains methods and techniques for drilling up to 6-in. diameter holes in reinforced concrete. Maintenance and operational instructions are provided as well. Available by writing on company letterhead to **Bill Jack Scientific Instrument Co.**, Roto-Imp Tool Div., Solana Beach, Calif.

For more details circle NED-237 K1 on enclosed inquiry slip

CHROMALOX FIRST NAME IN ELECTRIC HEAT

Radcor ELECTRIC HEATING SYSTEMS

ELEMENTS AND HEATERS

At Your Service . . .

CHROMALOX RADCOR Electric Heat Sales Engineering Representatives

WI-20

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ATLANTA, GA. TRinity 5-7244
BALTIMORE, MD. Hopkins 7-3280
BLOOMFIELD, N. J. EDison 8-6900
BOSTON, MASS. CEdar 5-8040
BUFFALO, N. Y. Phone TT6-4000
CHARLOTTE, N. C. FRanklin 5-1044
CHATTANOOGA, TENN. AMherst 5-3862
CHICAGO, ILL. Harrison 7-5464
CINCINNATI, OHIO Trinity 1-0605
CLEARWATER, FLA. Phone 446-7706
CLEVELAND, OHIO Prospect 1-7112
COLUMBIA, S. C. 256-6057
COLUMBUS, OHIO AMherst 7-8260
DALLAS, TEXAS Riverside 8-9004
DAVENPORT, IOWA Phone 326-5233
DENVER, COLORADO GLendale 5-3651
DES MOINES, IOWA CHerry 3-1203
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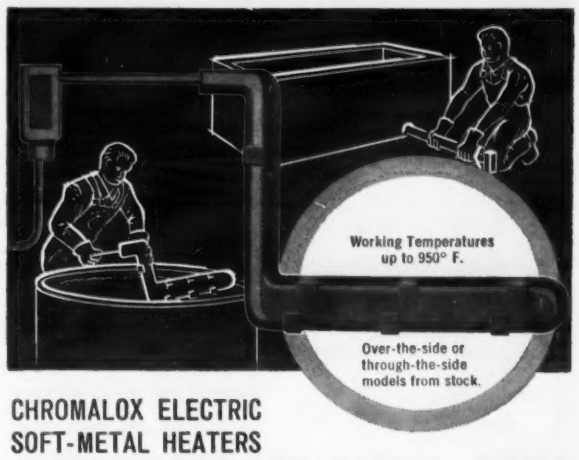
ELgin 7-0677
HOUSTON, TEXAS CApitol 5-0356
INDIANAPOLIS, IND. Melrose 5-5313
KANSAS CITY, MO. VIctor 2-3306
LOS ANGELES, CAL. LUdlow 9-6321
MIDDLETOWN, CONN. DIamond 6-9606
MILWAUKEE, WIS. Broadway 1-3021
MINNEAPOLIS, MINN. Federal 6-6631
NASHVILLE, TENN. CYpress 2-7016
NEW YORK CITY, N. Y. WOrth 4-2990
OMAHA, NEBRASKA 341-7600, 7610
PHILADELPHIA, PA. GReenwood 3-4477
PITTSBURGH, PA. EMerson 1-2900
PORTLAND, OREGON Capitol 3-4197
RICHMOND, VIRGINIA ATlantic 8-8758
ROCHESTER, N. Y. HAmilton 6-2070
ST. LOUIS, MISSOURI Chestnut 1-2433
SAN FRANCISCO, CAL. Underhill 1-3000
SEATTLE, WASH. MAin 4-7297
SYRACUSE, N. Y. GRanite 4-3933
WICHITA, KANSAS Amherst 2-5647

For more details circle NED-238 K1 on enclosed inquiry slip



CHROMALOX ELECTRIC SOFT-METAL HEATERS

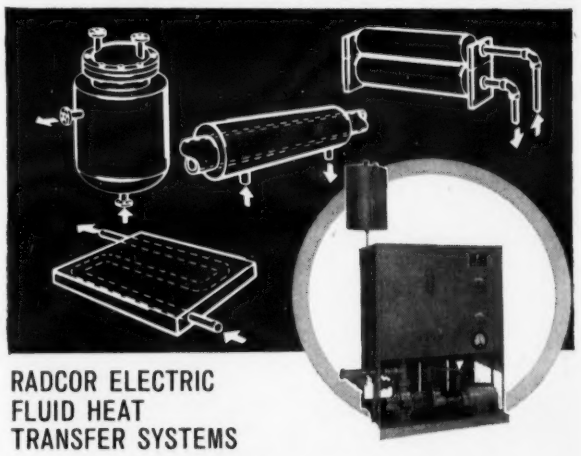
INCREASE POT LIFE, REDUCE DROSS

Chromalox Cast-Iron Electric Immersion Heaters are specifically designed for heavy-duty melting of babbitt, cadmium, lead, tin, zinc and similar soft metals and alloys. Immersion heating and accurate, automatic temperature controls result in better, cleaner metals with less oxidation and lower heat losses. Faster heating, more comfortable working conditions, clean and silent operation are among other advantages gained.

WI-2(A) **For Complete Details—Write for Bulletin PD-106.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle NED-239 K1 on enclosed inquiry slip



RADCOR ELECTRIC FLUID HEAT TRANSFER SYSTEMS

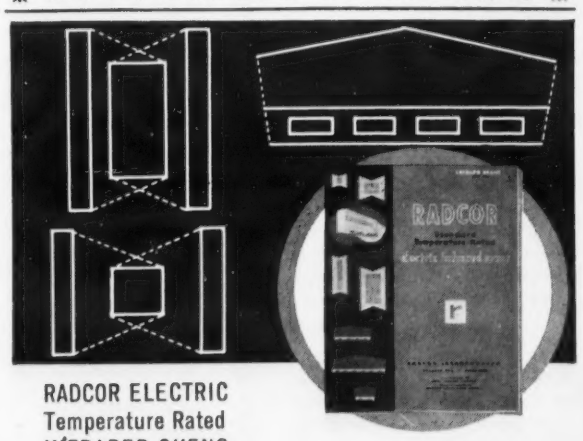
ACCURATE HEAT from single compact package. All necessary elements of the Radcor heat-transfer system are in one, all-welded, compact package. Automatic controls generate only as much heat as required, without high pressures.

Heat source is Chromalox Electric Circulation Heater. Temperatures to 600°F, automatically and accurately maintained. Ten different standard models to choose from, in two cabinet sizes ranging from 15,350 to 272,000 Btu's **Write for Bulletin BRP100-1.**

R-2

RADCOR, INC.
ELECTRIC HEATING SYSTEMS
Dept. B, P. O. Box 432 • Fostoria, Ohio
A Subsidiary of Edwin L. Wiegand Company

For more details circle NED-240 K1 on enclosed inquiry slip



RADCOR ELECTRIC Temperature Rated INFRARED OVENS

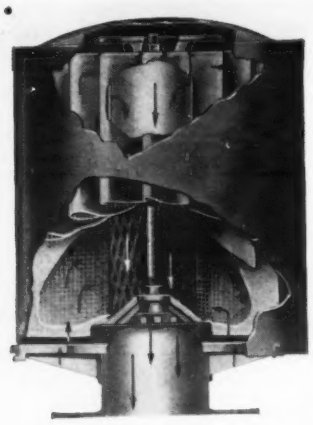
Temperature-Rating FITS THE OVEN TO THE JOB—Exactly!

Now—design curing, baking and drying ovens to your space and performance requirements in temperature ranges from 235° F. to 660° F. New Radcor Infrared Oven Catalog shows you how to save money, get the exact performance you need, cut costs and, incidentally, take the mystery out of oven selection.

R-3 **Write for Radcor Catalog BRG-115 Today!**

RADCOR, INC.
ELECTRIC HEATING SYSTEMS
Dept. B, P. O. Box 432 • Fostoria, Ohio
A Subsidiary of Edwin L. Wiegand Company

For more details circle NED-241 K1 on enclosed inquiry slip



To protect internal combustion engines, compressors and blowers, specify Dollinger Staynew Intake Filters. Utilize best filtering medium possible . . . offer greatest active filtering area for available space . . . maintain low velocity, low resistance to flow. Easy to install, simple to clean and inspect. Offered in capacities from 60 to 10,000 C.F.M. Write for Bulletin 100. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

STAYNEW DOLLINGER FILTERS

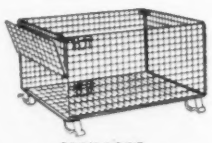
For more details circle NED-242 K1 on enclosed inquiry slip

the DIFFERENCE between PROFIT and LOSS....

. . . is determined by your efficiency in handling part and products between successive production stages—shipment and delivery.

And . . . if you're interested in reducing high handling costs in your plant, send for Union Steel Products Company's big new Palletainer catalog. It quickly and concisely shows many different Palletainer applications which represent the latest methods of handling, storing and warehousing. Construction features and complete specifications on the broad range of models available are also fully covered.

HI-LODE



BULK-LODE

WAREHOUSE

"JUNIOR"

SPECIAL OFFER

See for yourself . . . actually try Palletainers in your plant on a 60-day memo billing basis. Your obligation is freight—only! Phone today.

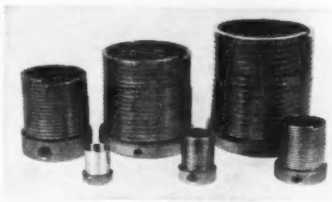
UNION STEEL PRODUCTS CO.
ALBION, MICHIGAN

Gentlemen: Please send my copy of the new Palletainer booklet at once. ☐

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State____
Please have your representative contact me at once..... ☐

For more details circle NED-243 K1 on enclosed inquiry slip

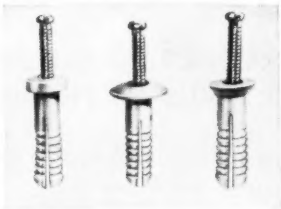
OVERRUNNING CLUTCHES have 5 to 500 lb-in. ratings



Hubs that are heat treated, tapered to minimize backlash, and dry lubricated with a baked coating of resin bonded molybdenum disulfide are incorporated in Inter-Mech overrunning clutches. Available in six stock sizes for overrunning, ratcheting, and reverse rotation prevention, they utilize rectangular section, heat treated chrome vanadium steel springs. Design permits the hub to be of almost any material, including sintered metal or plastic. Stock bores range from 1/8 to 5/8 in. and torques from 5 to 500 lb-in. Special models and bores can be furnished. • **International-Mechanisms,** 2815 Baird Rd., Fairport, N. Y.

For more details circle NED-244 K1 on enclosed inquiry slip

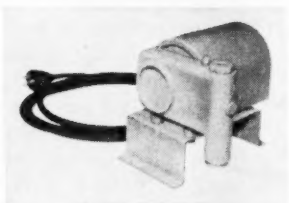
NYLON SCREW ANCHORS will not pull out under vibration



Tap-It screw anchors will hold fast in any material, including concrete, cinder block, brick, or steel. Installation requires drilling a hole, inserting the anchor, and tapping the drive-screw with a hammer. Removable and reusable anchors are nonconductors and will not pull out or fracture under vibration or shock. Round and flat head types are made in 3/16 x 1, 1/4 x 1, and 1/4 x 1 1/2-in. sizes. • **U. S. Expansion Bolt Co.,** 600 State St., York, Pa.

For more details circle NED-245 K1 on enclosed inquiry slip

CHEMICAL FEED PUMP in 0.8 to 1-gph capacities



Automatic delivery and positive metering of corrosion control chemicals and similar fluids is performed by this low cost chemical feed pump, available in two models. One is rated 0.8 gph at 15 to 100 psi; the other, 1 gph at 0 to 15 psi. Pump has a straight through pumping member with no pockets to trap air, and synthetic rubber pumping element and check valves. The motor-driven unit is actuated hydraulically with all mechanical parts submerged in oil. It can be controlled automatically to keep balanced with feedwater conditions when used on boiler systems or similar applications. • **Clayton Mfg. Co.,** Box 550, El Monte, Calif.

For more details circle NED-246 K1 on enclosed inquiry slip

You don't have to be a Monkey—

. . . to loosen frozen bolts on utility poles. The new Aerosol Kroil, which can be squirted with one finger, loosens the most stubborn frozen metal parts . . . FAST. More than 18,000 shops depend on Kroil whenever frozen metal parts threaten to tie up production or waste manhours. In this new package it is the finest rust-busting tool ever . . . shoots a stream 3 ft. yet won't leak. One customer said, "before trying Kroil we broke off every nut (on our heat treat trolleys), since then we have not lost one and have decreased the repairing time from 30 minutes to about 6 minutes per trolley."

KANO KROIL LOOSENS FROZEN METAL PARTS

Use Kroil on all dismantling jobs; for filing, sawing, honing; . . . also keeps air driven tools running freely.

Just try Kroil on a make good basis. Case of 12 Aerosol Kroil 12 ounce cans $18.75 f.o.b. factory or send $2.00 for one can postpaid. If it doesn't perform to suit you, return the empty can for refund.

KANO LABORATORIES 1074 Thompson Lane Nashville 11, Tennessee

For more details circle NED-247 K1 on enclosed inquiry slip

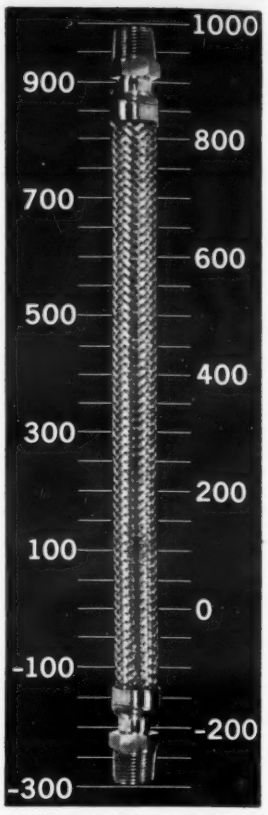
Temperature problem? specify ANACONDA stainless steel hose

Anaconda's flexible stainless steel hose is being used to convey steam, fuels, cryogenic fluids, air, gas, liquids, corrosives, chemicals in installations where temperatures may vary −300°F to 1,000°F.

The dependability of Anaconda metal hose can save you downtime and maintenance costs. Available in many standard assemblies—or custom-designed.

Whenever you have a connector problem, consult Anaconda for metal hose in a wide variety of metals and materials to meet every requirement. For more information write: Anaconda Metal Hose Division, Anaconda American Brass Company, Waterbury, Conn.

61-941

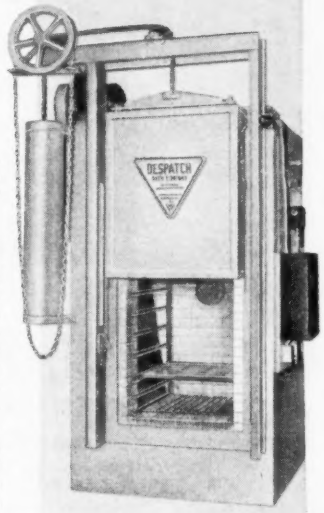


ANACONDA
METAL HOSE DIVISION

For more details circle NED-248 K1 on enclosed inquiry slip

PRECISION

HEAT TREATING FURNACE



There's a Despatch heat-treating furnace to suit your particular job.

Ten standard models are available with capacities of 8 to 96 cubic feet. Temperature maximum is 1350°F. Gas or electricity may be used for heating. Use of the highest quality materials throughout insures lifetime dependability and precision control. Despatch has been serving American industry for more than 58 years.

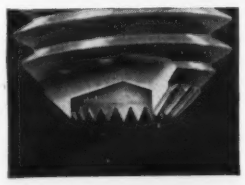
WRITE TODAY for free bulletin 206

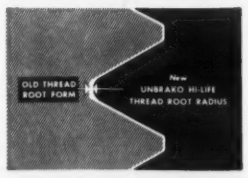
DESPATCH OVEN CO.

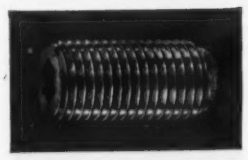
DESPATCH OVEN CO. 619 S.E. 8th St., Minneapolis 14, Minn.

For more details circle NED-249 K1 on enclosed inquiry slip

NEW! UNBRAKO Set Screw with the counterbore knurl!







- Patented* counterbore knurl permits easier and deeper penetration, greater knurl contact—hence maximum holding power
- Positive locking action before and unparalleled holding power at the recommended seating torque
- Hi-Life thread form, with its smoothly radiused root, distributes stresses to provide significantly higher tightening torques

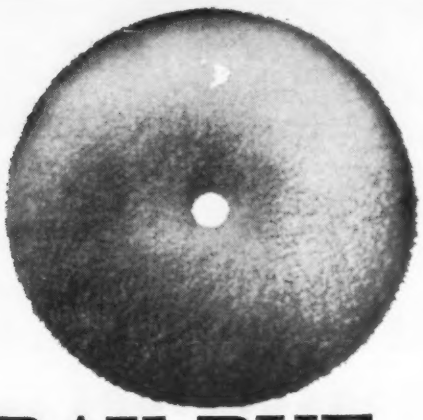
Thanks to its counterbore knurl and Hi-Life threads, the new UNBRAKO is "the one that won't work loose." Your SPS distributor has a complete stock on hand *now*. Sizes #4 through 1 in. For the new booklet on UNBRAKO High Torque Set Screws, write to Standard Pressed Steel Co.

*No. 2,992,669—patented July 18, 1961

INDUSTRIAL FASTENER Division **sps**

JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-250 K1 on enclosed inquiry slip



RAY-BUF...

new all-purpose polishing pad

Polishes faster—Ray-Buf's deep soft pile of 100% virgin wool gives higher luster faster.

Polishes evenly—New design puts tufts in controlled concentric circles, perfectly balanced, to give even polish.

Selected first-quality yarns—Stay fresh and resilient through repeated applications. Give high-quality results.

Washable—Tufts are firmly anchored to tough canvas backing. Won't pull out even after repeated washings.

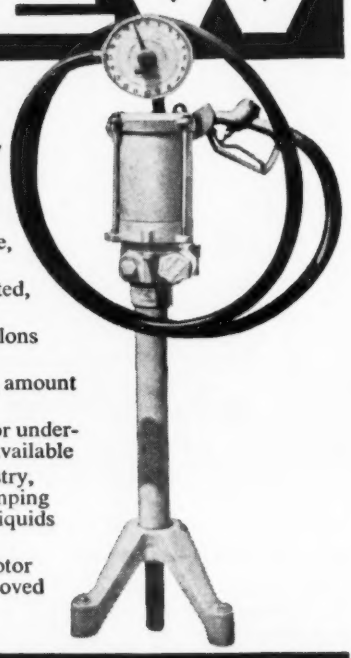
Write for Ray-Buf bulletin, prices, quantities.

Schlegel MANUFACTURING COMPANY
P. O. Box 197, Rochester 1, N. Y. In Canada: Oakville, Ontario

For more details circle NED-251 K1 on enclosed inquiry slip

NEW

Electric Utility Pump SERIES 57

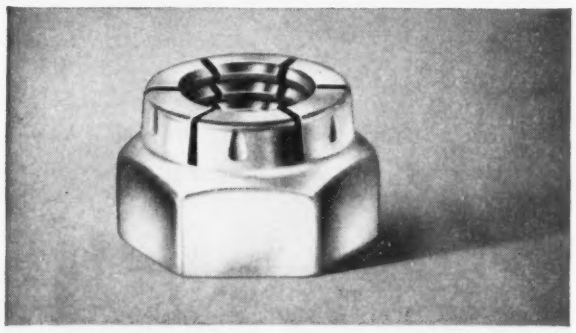


- Lightweight, portable, easily installed
- Permanently-lubricated, no belts, no gears
- Delivers up to 12 gallons per minute
- Meter for measuring amount pumped
- Pedestal, skid tank, or underground tank model available
- Ideal for farm, industry, construction site pumping of fuels, chemicals, liquids of any kind
- Pump, meter and motor assembly is UL approved

JOHN WOOD QUALITY PRODUCTS SINCE 1870

JOHN WOOD COMPANY
BENNETT PUMP DIVISION • Muskegon, Michigan

For more details circle NED-252 K1 on enclosed inquiry slip



Self-locking, vibration-proof FLEXLOC serves as locknut or stopnut

- Locks *without seating*—stays put wherever wrenching stops
- Holds tight despite impact, shock, vibration
- Simplifies design because it is one-piece—no auxiliary locking devices needed
- Can be readily removed, repeatedly reused
- Sizes #0-80 through 2"-4½
- In alloy steel, stainless steel, aluminum, brass

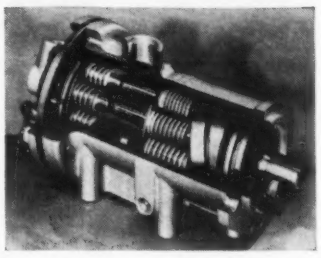
See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division SPS

JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-253 K1 on enclosed inquiry slip

HYDRAULIC PUMP
variable displacement type has wide application in equipment



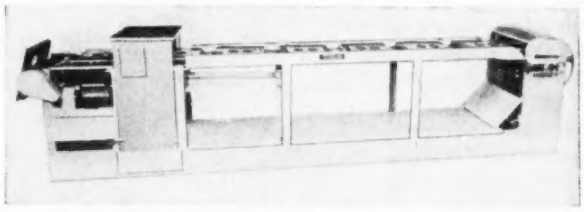
Balanced cylinder block and wobble type reaction plate which virtually eliminate pumping forces from the displacement changing mechanism are features of this variable displacement hydraulic pump which contribute to its control versatility. Direct cylinder block actuation at low force level provides rapid response and stable control of pump output. The axial piston Type WO7 pump meets JIC and SAE specs for use in machine tools and handling, construction, and marine equipment. Drive shaft and cam are its only rotating components.

Pump can operate continuously at no flow while maintaining full system pressure. Nominal output rating is 9 gpm at 3600 rpm continuous at 3000 psi. Controls are available for a 250 to 3000-psi range. Speed range is 450 to 4500 rpm, and maximum rating is 50 hp. • **Weatherhead Co.**, 300 E. 131st St., Cleveland 8, Ohio.

For more details circle NED-254 K1 on enclosed inquiry slip

PLASTIC PACKAGING MACHINES
many hand operations eliminated in blister and polyethylene bag units

Many hand operations, such as manipulating premolded blisters and cardboard and the placing of product in blisters, are eliminated in two plastic pack-



aging machine concepts. Depending upon customer's needs, a blister packager will seal the plastic, cardboard, and product fed to it; assemble the three components, then feed and heat seal; or count or measure the product in addition to assembling the container, feeding it to the machine, and heat sealing it.

In another concept, involving perishables that would be spoiled by thermosealing, a square of cardboard is used which bears the packager's message on one side and a coat of latex on the other. Half the cardboard is punched out to contain a sheet of plastic plus the perishable item. Machine folds the cardboard around the plastic and the product, presses the latex coated sides together, then gently ejects the sandwiched package. • **Techmation Corp.**, 19-75 Steinway St., Long Island City, N. Y.

For more details circle NED-255 K1 on enclosed inquiry slip

Simplify your design and purchasing with HALLOWELL standard steel collars

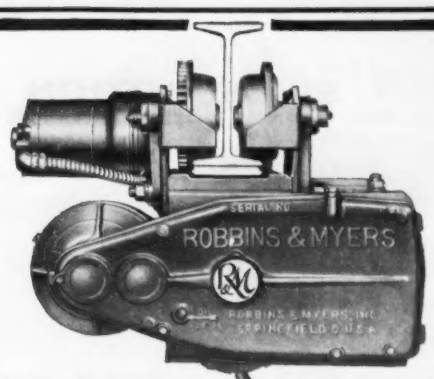
- 45 stock sizes—1/16 to 3 inch bore
- Immediate delivery from local dealer stocks
- Precision machined from first quality bar stock; perfectly balanced
- Supplied with UNBRAKO knurled cup point socket set screws—famous for their locking reliability
- Every collar size marked for quick identification

For more information, see your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners.

INDUSTRIAL FASTENER Division SPS

JENKINTOWN 24, PA.

For more details circle NED-256 K1 on enclosed inquiry slip



Beam-Hugging R&M Hoist ...SAVES SPACE!

Compact design of R&M Type F Hoists gives inches more usable lift . . . permits closer end approaches, provides greater side clearances. Many safety features protect operator, hoist and load—weight-type upper limit switch, low-voltage control circuit, full magnetic control, Weston-type automatic load brake, and others. Available in four frame sizes, ½ to 10 ton capacity, powered by weatherized 1½ to 15 HP R&M motors, rated 30 min., 55°C. rise. Mountings include lug suspension, push-type, hand-geared, or motor-driven trolleys. Write for Bulletin 920-NE

take it up with
ROBBINS & MYERS, INC.
SPRINGFIELD / OHIO, U.S.A.

For more details circle NED-257 K1 on enclosed inquiry slip

Cyclo-Core®

Multi-Carbide-Tipped Rotary

MASONRY BITS

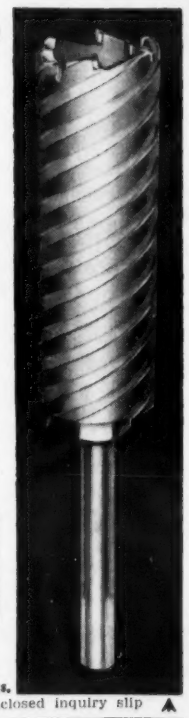
DRILL MORE HOLES IN LESS TIME THROUGH REINFORCED CONCRETE

Cyclo-Core drills *three times faster* than any other core bit — through hardest concrete, with reinforcing rods — out-performs any other core bit made, in speed, on-the-job time between sharpenings, and overall cutting life. Better because they're engineered *better*. Advanced free-cutting design, with individual dust-removing spiral for each cutting tip, means continuous, no-stall drilling.

Stock Sizes ¼" to 6" diameters — Larger diameters up to 14" available on request.

CYCLO-CORE STARTING CENTERS
Assure precise locating of holes by eliminating "walking" when starting to drill.
Your Industrial Distributor has them, or write direct for information.

Send for FREE copy of "DRILLING REINFORCED CONCRETE" Brochure



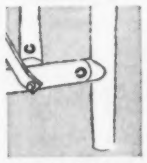
NEW ENGLAND CARBIDE TOOL CO., INC.
55V Commercial Street Medford 55, Mass.

For more details circle NED-258 K1 on enclosed inquiry slip

Use it for laminating... SEL-LOK spring pin

Tool handle

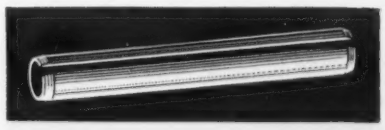
Lifts for women's shoes



Metal table legs

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 4 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2670.



INDUSTRIAL FASTENER Division SPS

JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-259 K1 on enclosed inquiry slip

The 1st High Quality Switches in the 10¢ range

SPACE-SAVING DESIGNS extend only 31/64" below mounting surface, fit compact appliances easily.

TIME-SAVING INSTALLATION. Quick-connect terminals for AMP or similar receptacles, extend from ends, not bottom, for easy wiring.

NYLON BASE with built-in creepage barriers. No supplementary insulation needed. Snap-on nylon shield, optional, completely covers all "live" parts.

6-AMPERE RATING at 125 v ac (U. L. I. inspected). SPST or SPDT circuits.

DURABLE, ATTRACTIVE. Smooth "feel," positive detent. Trigger knobs in many colors and sizes.

Electronic Components Div., Stackpole Carbon Co., St. Marys, Pa.

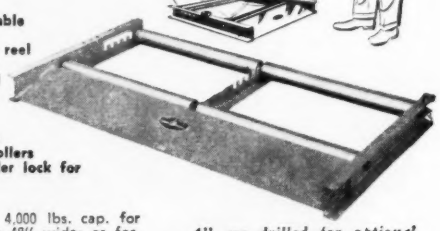
STACKPOLE Write for details on Types SS-37 & SS-37-1 . . . part of the industry's most complete line of slide switches.

For more details circle NED-260 K1 on enclosed inquiry slip

REELS roll SMOOTHLY on ROLL-A-REEL for pay-out or take-up of anything on reels

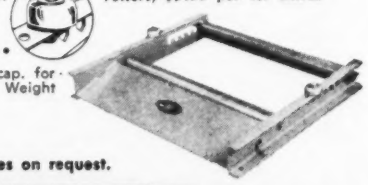
No pulling heavy reels . . . no pushing . . . JUST LOAD and away you go!

- Easily portable
- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing adjustable rollers
- Positive roller lock for unloading



STYLE B — 4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#. PRICE $84.50 f.o.b. Cincinnati

All are drilled for optional auxiliary ball-bearing side rollers, $5.00 per set extra.



STYLE A — 2,000 lbs. cap. for reels up to 28" wide. Weight 60#. PRICE $46.50 f.o.b. Cincinnati

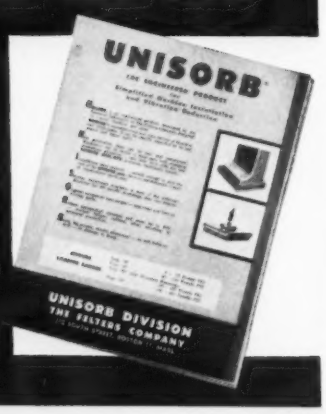
- Special sizes on request.

ROLL-A-REEL 4626 Reading Road Cincinnati 29, Ohio

For more details circle NED-261 K1 on enclosed inquiry slip

FREE

Bulletin Tells All About Machine Mounts!



Here's complete data on machine mounts — describes various kinds, how to use them, gives specifications.

Shows how to save up to 80% in machine installation, cut vibration, reduce noise and make machines run better and longer.

Make sure you know all about this modern method of machine mounting. Send for this Unisorb Bulletin today. No cost or obligation.

FE9-5

UNISORB Division of The Felters Co. 224 South St., Boston 11, Mass.

For more details circle NED-262 K1 on enclosed inquiry slip

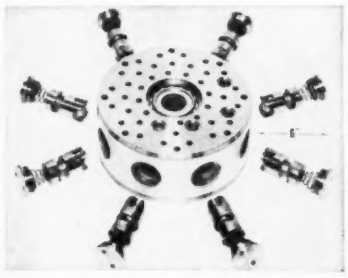
INTERCOM SYSTEM
up to 11 stations are served by one centralized amplifier

One centralized amplifier, small enough to be located in a remote corner, serves all sending and receiving stations in the 2500 Series Teletalk intercom system for small companies and offices. Amplifier, shown at bottom in photo, provides for connecting up to 11 stations, either all master stations, or combination of master and speaker stations. A lockout prevents interruption of two-way conversation by a third station.

Desk-top station 2510 and wall-mounted unit W2510, shown top and center, have speaker-microphones which pick up normal conversation within radius of 15 ft. Units can be used for immediate conversation between two stations at a time. Any station in the system can originate a call. With volume control turned to operation position, a unit can listen in or monitor the area surrounding the station selected. Master station can be located within 1000 ft of centralized amplifier. • **Webster Electric Co.**, 1900 Clark St., Racine, Wis.

For more details circle NED-263 K1 on enclosed inquiry slip

HYDRAULIC SERVO MOTOR
operates at 500-psi maximum in a 1/60,000 to 500-rpm range



Precision and immediate response for orientation, location, and speed are given to positioning drives for machine tools, processing machinery, and other equipment by the Acradrive hydraulic servo motor. It is suited for applications requiring a control motor of extreme stiffness, high torque-to-inertia ratio, and wide speed range with ultra-slow speed limits. Motor operates at a maximum of 500 psi, with an effective speed range under servo control of 1/60,000 to 500 rpm.

Torque delivered is 3.52 lb-in./psi at full capacity with 98 per cent efficiency. It reverses 100 rpm rotation in 0.0015 sec and within 0.0006 revolution after receiving the reverse signal. Because the eight radial pistons are always under load, there is no backlash, even with high speed reversal. Motor measures 12 in. across by 6 in. thick, and weighs 138 lb. Price is $2000. • **Cincinnati Milling Machine Co.**, Cimtrol Div., Marburg & South Streets, Cincinnati 9, Ohio.

For more details circle NED-264 K1 on enclosed inquiry slip

UNISORB

MODERN 3-IN-1 MACHINE MOUNT

- VIBRATION CONTROL
- LOW COST INSTALLATION
- PRECISION LEVELING

A complete line of Unisorb Pads and Unisorb Level-Rite Mounts for fast and simplified installation of all types of machinery and equipment.

- Cuts installation costs up to 70% . . . eliminates bolts and lag screws . . . speeds installation . . . no drilling required . . . machines can always be moved quickly.
- Eliminates up to 85% of transmitted vibration and noise . . . increases machine life and efficiency . . . reduces maintenance.
- Unisorb Level-Rite provides fast and precise leveling.
- Safe, sure grip . . . can be cemented if needed.
- Unisorb is available in wide variety of densities and thicknesses — for maximum efficiency. Send for bulletin, today.

FE9-64

UNISORB 224 SOUTH STREET BOSTON, MASS.

For more details circle NED-265 K1 on enclosed inquiry slip

NEW 8 blade belted and direct driven high speed

tubeaxial fans . . .

Aerovent's new Tubeaxial Fan, designed around a new 8-blade "Macheta" Airfoil Axial Flow Propeller, offers top performance against medium pressures at speeds to 3450 RPM. Available in 16", 18", 24", and 30" diameters, this unit combines speed, stamina and modern functional design. Easily installed in present ductwork or engineered to new construction, it's the right answer for resistances to 4" SP. Another outstanding development from Aerovent—America's finest industrial fans and air equipment.

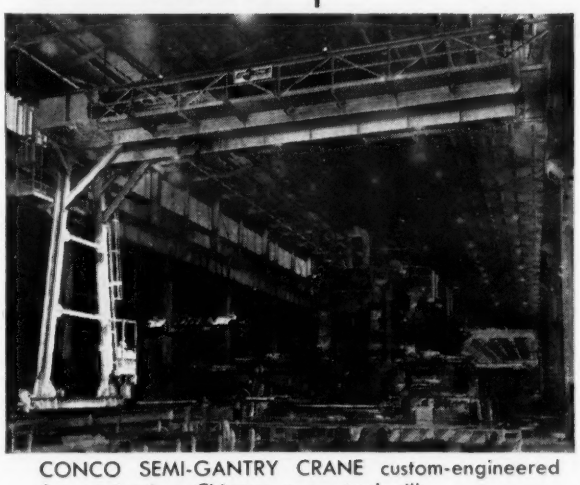
Write for free Bulletin 350

Aerovent FAN CO., INC. ASH and BLAKE STS. PIQUA, OHIO

Air deliveries of Aerovent equipment determined in accordance with established and accepted codes and guaranteed by manufacturer. CERTIFIED PERFORMANCE

For more details circle NED-266 K1 on enclosed inquiry slip

CONCO OVERHEAD CRANES IN CAPACITIES TO 150 TONS



CONCO SEMI-GANTRY CRANE custom-engineered for service in a Chicago area steel mill

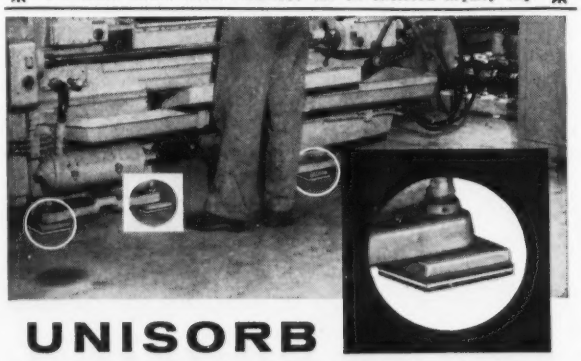
For Information Request Bulletin 5000B

Material Handling Division Conco Engineering Works, Inc. Mendota, Illinois

SPARTAN TOOL DIVISION, Powered Sewer Cleaning Equipment • FIELD CONTROL DIVISION, Barometric Draft Controls • CONCO BUILDING PRODUCTS, INC., Brick, Tile, Stone • CHICAGO TRAMRAIL DIVISION, "Trak-Rak" Stacker Cranes, Monorail Systems, "Fas-Lok" Storage Racks.

CRANES HOISTS CONCO

For more details circle NED-267 K1 on enclosed inquiry slip



UNISORB

Saves over $15.00 on Every Machine Installation

The Minneapolis-Honeywell Regulator Co. Valve Division at Fort Washington, Pa., found that Unisorb pads actually pay for themselves! Here's why:

- Labor costs alone saved about $15.00 per machine (mounting time)
- There were savings on anchoring materials
- Reduces noise and vibration up to 85%
- Greatly reduced hours lost in moving
- Machines kept in alignment
- Provides ease of shop rearrangement
- Machines stay anchored in place

Company after company is discovering these same facts — that Unisorb Pads and Unisorb Level-Rite Mounts can save time and money, and cut noise and vibration, every time a machine is installed.

TRY A SET IN YOUR PLANT! UNISORB is available at leading Industrial Distributors, or write direct for the special Unisorb Money-Back Trial Offer.

FE9-63

UNISORB Division of The Felters Co. 224 South St., Boston 11, Mass.

For more details circle NED-268 K1 on enclosed inquiry slip

Whenever you have a sticking problem.....!

Use IMS SILICONE FLUID SPRAY

To cut your reject costs!

Next time you walk through the plant and see them losing production due to process sticking in molding, packaging or cutting ... just order IMS Silicone Spray! You'll want to take a can home too, to prove its superb lubricating and anti-stick quality on locks...ice trays... guns...fish reels...storm windows, etc.

12 cans FREE!

Look for your FREE BONUS card in each unbroken dozen. Just mail us 12 of these cards and we'll send you one dozen cans at no charge!

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO. INC.
17601 So. Miles Rd. Cleveland 28, O.

For more details circle NED-269 K1 on enclosed inquiry slip

SPEED SELECTOR VARIABLE SPEED DRIVES and SHEAVES

New ADJUSTABLE MOTOR BASE

A most efficient and accurate variable speed drive—¾ hp. to 10 hp. Low cost, easily installed, little or no maintenance. Check its many advantages!

Write for Bulletin No. 95

VARI-PITCH SHEAVES

can give your machines wide-range speed control on fixed centers—ratios up to 8:1—capacities from ¼ hp. to 10 hp. Used by many industries in a variety of applications. Rugged, efficient, economical, simple to use.

Write for Bulletin No. 80

SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO

For more details circle NED-270 K1 on enclosed inquiry slip

GET COMPLETE HANNIFIN AIR CYLINDER DATA—INCLUDING NEW SERIES "C"

Air cylinder selection and pricing are easy with 3 Hannifin Bulletins. Heavy-duty Series "A" cylinders are offered in 11 bore sizes, any stroke. New Series "C" cylinders give you traditional Hannifin quality plus new economy in a line of general purpose cylinders. Series "S" (Midget-Air) cylinders come in ¾", 1" and 1⅛" bore sizes, spring-return models available. New, easy-to-use price sheets show the many modifications available. 3551-PH

PARKER-HANNIFIN
HANNIFIN COMPANY DIVISION
527 South Wolf Road • Des Plaines, Illinois

For more details circle NED-271 K1 on enclosed inquiry slip

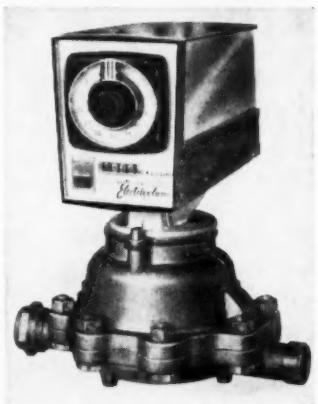
PORTABLE RAMP in 1000 to 1500-lb load capacities

Lightweight magnesium Port-A-Ramp for handling of materials from one level to another, or where dock facilities are limited, can easily be moved about by

one man. Frame has yellow painted side curb extrusions fastened to channel cross members, and one-piece double-thick plates strengthen the ends. Ramps are made in 7 to 16-ft lengths in widths from 25 to 37 in. (useful area) and have load capacities from 1000 to 1500 lb. Units range in weight from 55 to 149 lb. Nonskid center walkway is embedded with abrasive. • **Brooks & Perkins, Inc.**, 1950 W. Fort St., Detroit 16, Mich.

For more details circle NED-272 K1 on enclosed inquiry slip

ELECTRIC LIQUID METER delivers at press of a button



A preset quantity of liquid is delivered by the Electrivolume Meter at the press of a button. Mechanism resets automatically to duplicate the delivery when button is again depressed. Meter can be used to actuate other Electrivolume meters for delivering quantities of other liquids in any desired sequence, or can be used to start and stop pumps, and operate solenoid valves, signaling devices, electric relays, and other processing equipment. Units are available in various sizes and capacities to handle almost every liquid, including many corrosives. • **Buffalo Meter Co.**, 2903 Main St., Buffalo 14, N. Y.

For more details circle NED-273 K1 on enclosed inquiry slip

Colored & Reinforced Gummed Tapes

FREE Minnesota Mining & Mfg. Co., Mid-States Gummed Paper Div.—Color coding possibilities of Green Core colored kraft sealing tapes for six strip carton closures are illustrated in dual sample booklet. Sample swatches of these and of all reinforced tapes are provided, and all types of carton closures are shown.

For more details circle NED-274 K1 on enclosed inquiry slip

NEW "HUSTLER" BY HANNIFIN INCLUDED IN HANDY GUIDES TO AIR VALVE SELECTION

You'll want to know about these new high-speed Hannifin "Hustler" 4-way air valves with low-wattage, nylon encapsulated solenoids guaranteed for the life of the valve. "Hustler's" many new features are described in the first of these two new bulletins. The second bulletin is our new, revised "Valve Finder" giving C_v (flow) ratings on every standard air valve in the Hannifin line, including the new "Hustler" models. Write for your copies today. 3552-PH

PARKER-HANNIFIN
HANNIFIN COMPANY DIVISION
527 South Wolf Road • Des Plaines, Illinois

For more details circle NED-275 K1 on enclosed inquiry slip

Solve your "Small Parts" production problems with a HANNIFIN "HAN-D-PRESS"

It's air operated!

The husky Hannifin "Han-D-Press" takes operator fatigue out of light production operations where speed is the key to economy. A safe, easy-to-operate Hannifin air-operated bench press can handle these sometimes troublesome jobs better, faster and easier.

RIVETING
STAKING
PUNCHING
PRESSING
ASSEMBLING
MARKING

CHECK THESE FEATURES:
- Electric control through Hannifin 4-way solenoid-actuated valve.
- Guided ram. Speed easily adjustable. Automatic return.
- Removable steel base plate. Easy to change job set-ups using alternate work bases.
- Minimum maintenance. Rigid frame; cylinder "tru-bored" and honed.
- Half-ton and one-ton models. Low prices. Immediate delivery.

PARKER-HANNIFIN
HANNIFIN COMPANY DIVISION
527 South Wolf Road • Des Plaines, Illinois

For more details circle NED-276 K1 on enclosed inquiry slip

Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-277 K1 on enclosed inquiry slip

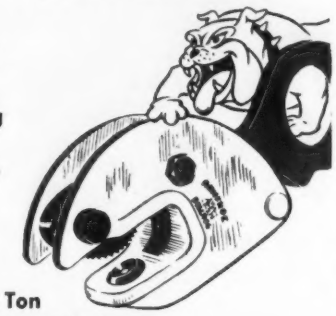
NEW SIGHT FEED AIR LINE LUBRICATOR ADDED TO HANNIFIN "CROWN" LINE

Like to SEE how much oil is entering the air stream? Like to adjust it to your exact requirements? You can do this with the new "Crown" Sight Feed Lubricator. There are two other lubricator types, including the revolutionary Pulse Lube, in the "Crown" family of air line filters, regulators and lubricators. Get all data on the complete Hannifin "Crown" line. You'll be glad you did. 3550-PH

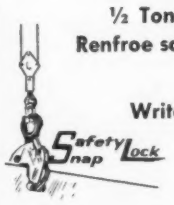
PARKER-HANNIFIN
HANNIFIN COMPANY DIVISION
527 South Wolf Road • Des Plaines, Illinois

For more details circle NED-278 K1 on enclosed inquiry slip

THE RENFROE
PRECISION-BUILT
BULLDOG
STEEL LIFTING CLAMP
½ Ton to 7 Ton
- Efficient — Rugged
- Light in Weight
- Larger Jaw Opening
- Compact in Size
- 5 to 1 Safety Factor

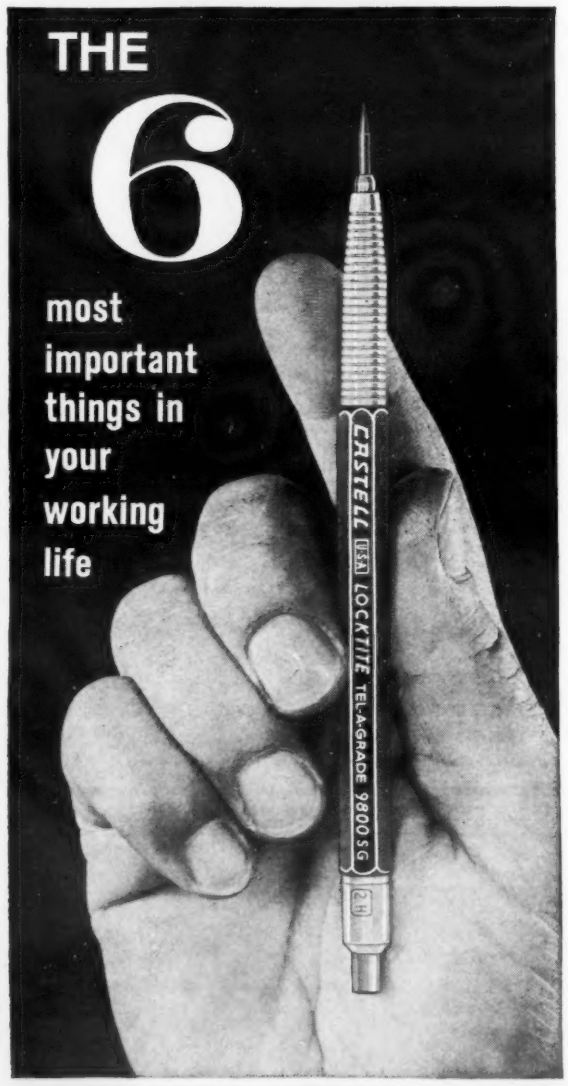


½ Ton to 20 Ton
Renfroe safety snap lock clamps
Safest steel lifting clamp available
Write for full line catalogue



J. C. RENFROE & SONS, INC.
1926 SPEARING STREET • JACKSONVILLE, FLORIDA

For more details circle NED-280 K1 on enclosed inquiry slip



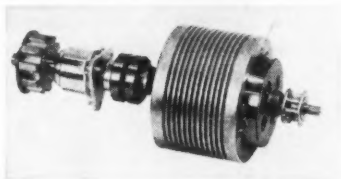
The 6 most important things in your working life are your five skilled fingers and your **A.W.Faber** #9800 SG **Locktite** Tel-A-Grade Lead Holder ■ **Locktite** becomes a part of your creative process ■ The no-slip functional grip gives you smooth traction and practically banishes finger fatigue ■ Gun-rifled clutch holds the lead like the jaws of a bull dog ■ Unique indicator reveals the degree in use at a glance ■ Carries ironclad 2-year guarantee ■ **A.W.Faber** will replace the entire holder at no charge if any part wears out in normal usage ■ Yes, you can buy cheaper lead holders, but can you afford to let pennies stand between you and your perfect working tools? Buy quality—buy **Locktite,** call your dealer today ■ **Castell Drawing Leads #9030** *are of the identical quality and grading as world-famous Castell wood pencil ■ Usable in all standard holders, but a perfect mate for Locktite ■ Draws perfectly on all surfaces, including Cronar and Mylar base films ■ Available in all degrees from 7B to 10H, and in a kaleidoscope of colors ■*

A.W.FABER-CASTELL
Pencil Co., Inc., Newark 3, N. J.

Our Bicentennial year—1761-1961
200 years of uninterrupted manufacturing experience.

For more details circle NED-281 K1 on enclosed inquiry slip

HYSTERESIS CLUTCH
delivers controllable torque



Output torque proportional to dc control current is delivered through a range of speeds and loads by this 1/20-hp, 1800-rpm hysteresis clutch. Unit is capable of synchronous driving or continuous slip with negligible torque variation. Unit shown measures 2½ in. OD and is applicable to business machines, tape tensioners, recorders, and servo control systems. Clutches are available with or without pillow blocks, mounting bearings, drive gears, and pulleys. • **Scanner Corp. of America,** 30595 W. Eight Mile Rd., Livonia, Mich.

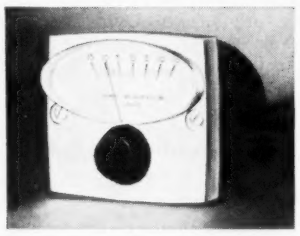
For more details circle NED-282 K1 on enclosed inquiry slip

TWO-WAY RADIO
5-w, ten-tube, Citizen's Band unit

The Ray-Tel 8 Citizen's Band two-way radio operates from 115-v ac, or from either 12 or 6-v dc battery power for vehicle or other mobile installation. The five-channel, ten-tube transmitter-receiver operates at 5 w input power and delivers 2.9 w nominal output when connected to 20-100 ohm resistive antenna loads. It measures 9½ x 5 x 9¼ in., has adjustable squelch and automatic volume control, and employs a 4-in. front-mounted speaker. List price of $189 includes press-to-talk microphone and set of matched crystals. • **Raytheon Co.,** Distributor Products Div., 411 Providence Turnpike, Westwood, Mass.

For more details circle NED-283 K1 on enclosed inquiry slip

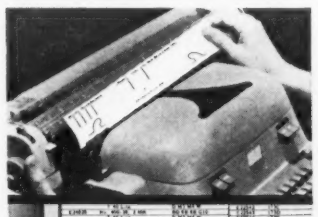
POINTER GALVANOMETER
for use in null-type instruments



Resistance values from 10 to 1000 ohms are available in the Model H2000 pointer galvanometer, a taut suspension, moving coil instrument. Suspensions are terminated in shock mountings. An Alnico V permanent magnet assures high permanent flux density. Ambient operational temperature range is −55 to 71° C. Instrument has a pointer index with zero-center 30-mm scale. Sensitivities from 1.25 to 0.15 microamperes per millimeter scale division are available. Period is 1.2 seconds. The 3½-in. deep galvanometer is designed for panel or portable null-type instruments. • **Howell Instruments, Inc.,** 3479 W. Vickery Blvd., Ft. Worth 7, Tex.

For more details circle NED-284 K1 on enclosed inquiry slip

type
each item change on a separate card



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. . . into your Acme photo panel

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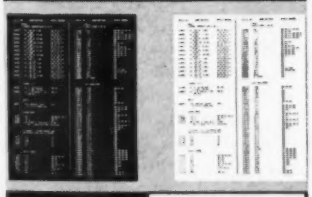
. . . your fresh new list with standard office duplicating equipment after photographing panels.



ACME PHOTO PANELS MAKE SHORT WORK OF LONG LISTS.
Maintain your own lists (parts, catalog, directory or index) . . . or let Acme do it for you. Send coupon today for details.

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ACME VISIBLE RECORDS, INC.
World's Largest Exclusive Makers of Visible Record Systems
3410 West Allview Drive, Crozet, Va.
NAME _____ TITLE _____
ADDRESS _____
CITY _____ STATE _____

For more details circle NED-285 K1 on enclosed inquiry slip

Schrader's famous quality is built in, at low cost

USE FOR: Both in-plant applications and original equipment. Excellent for operating jigs, fixtures, transfer and special purpose machines. Light and gang-type duty, but also tougher jobs requiring extra strength and speed. Used in every industry.

FEATURES: No tie rods . . . double acting . . . popular 1" bore. Stroke sizes 1", 2", 3", 4", 6", 9", 12". Available for mounting by bolt, neck or angle leg.

CONSTRUCTION: Molybdenum disulphide grease packing . . . cartridge type bronze bearing and piston rod seal . . . non-corrosive solid brass end plates with hexagonal flats and non-corrosive brass cylinder and pistons . . . ground and polished steel piston rod . . . self adjusting synthetic rubber "U" cup piston seals. Priced from $14.00 to $20.50.

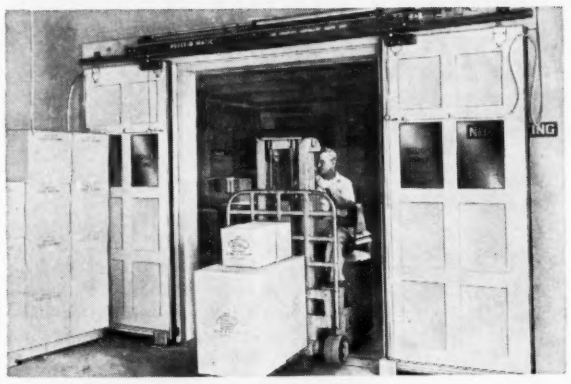
Your nearby distributor has full lines of Schrader air circuit components—off the shelf service—up-to-the-minute information—air circuit experts. Consult the Yellow Pages or write for his address.

Schrader® a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

For more details circle NED-286 K1 on enclosed inquiry slip

SAVES MAN HOURS



PREST-O-MATIC® DOORS
Eliminate Waste Motion

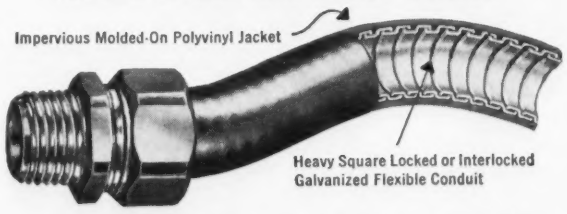
No need for fork truck drivers to stop—or even slow down. They simply pull an overhead cord and continue on their way. Doors open and close *Prest-O-Matically.*

You save time, you save dollars, because faster traffic means more trips. Pre-fitted to your doorway, Prest-O-Matics come in one complete easy-to-apply package. Bifold or Sliding. You choose the motive power, Air or Electric. See our insert in Sweet's Catalog or write for full facts.

CLARK DOOR COMPANY, INC. *(since 1878)*
511 Hunterdon St., Newark 8, N. J.

For more details circle NED-287 K1 on enclosed inquiry slip

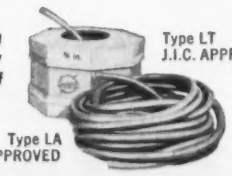
Moisture just can't penetrate
LIQUATITE®
FLEXIBLE LIQUID-TIGHT WIRING CONDUIT



. . . nor can grease, dirt, oils, alcohols or most other corrosive vapors, acids, or other harmful elements. Circuits are *completely* protected.

Liquatite can be installed as quickly and easily as Flexible Conduit, yet assures the protection of Rigid Conduit. It follows contours, absorbs motion, vibration and shock indefinitely.

Find out why Liquatite is serving industry everywhere. Write today for free sample, costs and name of Distributor nearest you.



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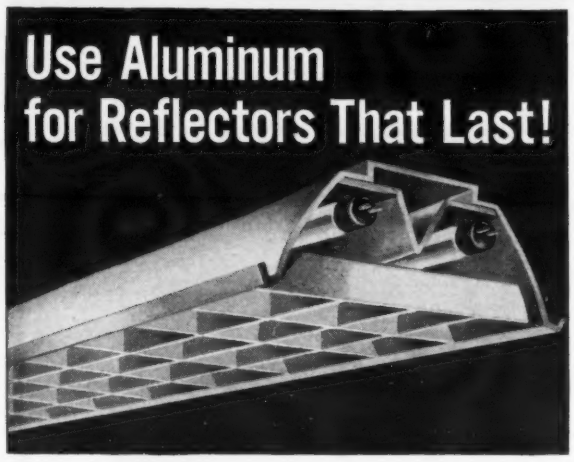
ELECTRI-FLEX COMPANY
P.O. BOX 128H • ROSELLE, ILLINOIS

For more details circle NED-288 K1 on enclosed inquiry slip

Use Aluminum for Reflectors That Last!



Alcoa® Lighting Sheet with the famous Alzak® finish makes the best reflectors for lighting fixtures. Both diffuse and specular surfaces defy corrosion for lasting reflectivity. Call your nearest Alcoa distributor or Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-289 K1 on enclosed inquiry slip

Looking for Welded Aluminum Tube?

Alcoa's Jobbing Division makes it in a wide range of wall thicknesses, diameters and lengths. High-volume runs or custom-engineered small runs. Latest automatic welding equipment meets aircraft, military and code requirements, assures thin-wall tube to close tolerances. Call your nearest Alcoa sales office for design and engineering help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-290 K1 on enclosed inquiry slip

Get Quick Delivery on Standard Storage Tanks

Alcoa's Jobbing Division puts them together quickly from stocked parts . . . cuts delivery time. Sizes from 5,800 to 21,400 gal. Horizontal or vertical. Specials, too. We build pressure vessels to your requirements, give you design and engineering help. Call your nearest Alcoa sales office for details.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-291 K1 on enclosed inquiry slip

VARIABLE TRANSFORMER
features fine voltage resolution

Unusual winding and brush arrangement makes fine voltage resolution possible in the Model T501U Adjust-A-Volt variable transformer which is rated 50 amp, 0 to 140 v with 120-v input. Unit has a square, solid aluminum mounting base and is designed for either panel or bench mounting. Snap-on balanced rotor facilitates inspection. Side-replaceable brushes cannot spring loose under impact. Unit occupies a $13\frac{5}{8}$ x $12\frac{1}{2}$ x $5\frac{1}{2}$-in. space. • **Standard Electrical Products Co.**, 2240 E. Third St., Dayton 3, Ohio.

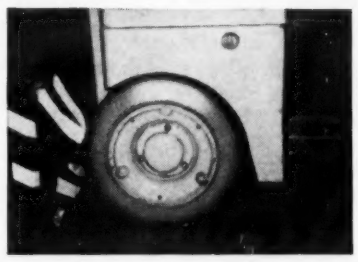
For more details circle NED-292 K1 on enclosed inquiry slip

RESPIRATOR
has one-piece, resilient facepiece

Anatomically designed 600A MonoMask respirator has a one-piece, resilient rubber facepiece which shapes to the wearer's face. Unit has a single, treated felt filter approved for protection against dusts, pneumoconiosis-producing mists, and chromic acid mists. Mask is offered complete with molded rubber headband and five extra filters. • **Ray-O-Vac Co.**, Willson Products Div., Second & Washington Streets, Reading, Pa.

For more details circle NED-293 K1 on enclosed inquiry slip

PRESS-ON URETHANE TIRES
53 sizes, capacities to 14,000 lb



Compounded of urethane polyesters, Tuf-flex press-on tires exhibit high chemical resistance, service life. Tires do not soften or deteriorate in prolonged operation through spills of oil, water, gasoline, soap, detergents, fatty acids, and degreasing compounds, and resist destruction by sunlight or aging. They retain their traction even on steel ramps that are constantly wet, and are nonmarking on any floor surface. Tires are compounded in hardnesses from 50 to 90 durometer (Shore A scale) and are offered in 53 sizes from 9 x 5 x 5 to 22 x 8 x $17\frac{3}{4}$ in. Load capacities range from 4800 to 14,000 lb. • **CheMechanical Inc.**, 15920 Sun Tone Dr., South Holland, Ill.

For more details circle NED-294 K1 on enclosed inquiry slip

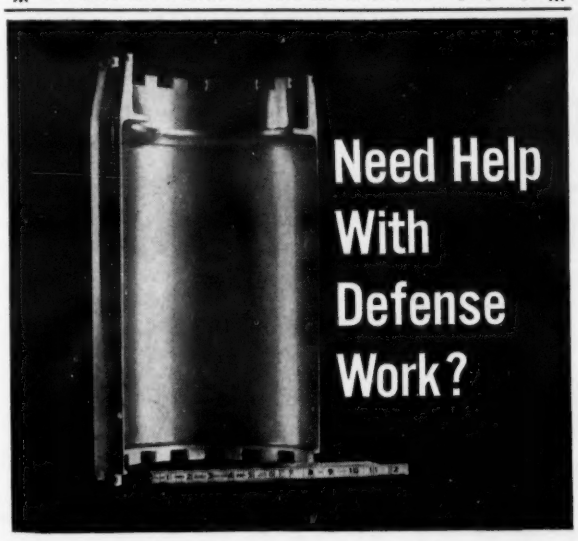
Lower Costs With Alcoa Aluminum Shipping Drums

Lightweight, strong Alcoa® Aluminum shipping drums increase payloads, cut dead weight, save on labor and handling. Nonscaling, nonsludging, noncontaminating, chemically neutral to a wide range of liquids and food products. 55-gal general-purpose drum . . . open-top model in 29-, 45- and 55-gal sizes. Call your nearest Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-295 K1 on enclosed inquiry slip

Need Help With Defense Work?



Alcoa's Jobbing Division, with complete aluminum design, engineering and fabricating facilities, can help you meet production schedules. We're experienced in missile parts. Above section for U.S. Air Force missile roll-spun from a preformed part by Alcoa Jobbing Division. Call your nearest Alcoa sales office to get jobbing help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-296 K1 on enclosed inquiry slip

Need Aluminum Design and Fabrication Help? Alcoa's Jobbing Division Can Provide It.

If you need specialized equipment or personnel for any kind of aluminum design and fabrication, call on Alcoa's Jobbing Division. We're fully equipped to do one-of-a-kind "specials," long-run productions, or the *unusual*, including defense work.

The Jobbing Division, utilizing new developments, new processes in aluminum, is ready to help with that unusual job that may be giving you a headache. Save tooling costs and investment in additional equipment. Call your Alcoa sales office and ask about the Jobbing Division's services that can help you right now.

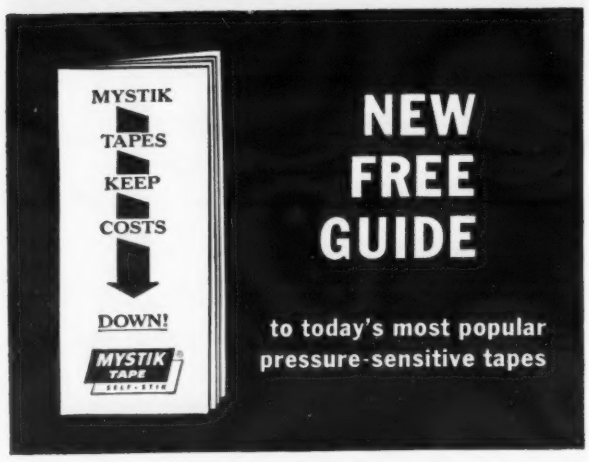
FREE 16-page booklet. Mail coupon for illustrated booklet describing the Alcoa Jobbing Division's fabricating facilities and design assistance that are ready to work for you. They are the world's finest.

ALUMINUM COMPANY OF AMERICA
859-K Alcoa Building, Pittsburgh 19, Pa.

Please send my free copy of *Aluminum Fabricating Facilities of the Alcoa Jobbing Division.*

NAME _____ TITLE _____
COMPANY _____
STREET ADDRESS _____
CITY _____ ZONE _____ STATE _____

ALCOA ALUMINUM
JOBBING DIVISION

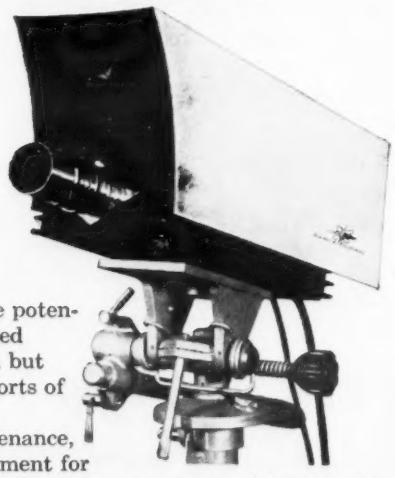


Here's a new, compact handbook you'll want to keep at your fingertips! It gives you up-to-date information about the types of tapes you use most. Indexed for quick reference. Complete with physical characteristics and idea-provoking application data. Send today for your FREE copy of "Mystik Tapes Keep Costs Down!" Write to:

MYSTIK TAPE SELF-STIK
MYSTIK ADHESIVE PRODUCTS, INC.
2635 N. KILDARE AVENUE • CHICAGO 39

For more details circle NED-301 K1 on enclosed inquiry slip

New Hawk 401 Utiliscope permits... AN UNPRECEDENTED PROPOSITION IN CLOSED CIRCUIT TELEVISION...



Impressed by the potential value of closed circuit television but *depressed* by reports of high initial cost, expensive maintenance, constant requirement for difficult adjustments, and general unreliability? Then listen . . . to an unprecedented proposition from the world's oldest manufacturer of industrial closed circuit television: Indoor or outdoors, in any kind of weather with practically any degree of illumination, Diamond Electronics' all new Hawk 401 Utiliscope is *guaranteed on a money-back basis* to provide a sharp, clear picture of just about anything . . . perimeter barriers, gates, transfer points, loading docks, construction areas, vehicular movement, rooftops, hazardous areas . . . all from one safe, comfortable and convenient location. The Hawk requires no special housing, no special power supply, no special adjustments for changing light and weather conditions. Just plug it into an ordinary 110 V outlet and forget about it.

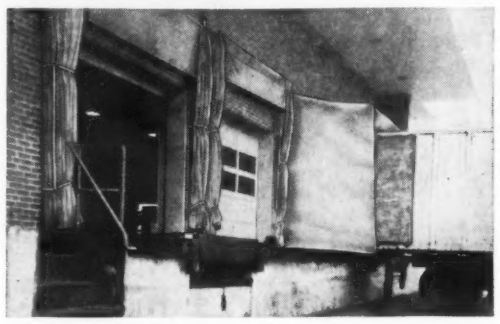
See for yourself. Call, write or wire and we'll arrange a demonstration within the week.

Diamond Electronics
Diamond Power Specialty Corporation • Lancaster, Ohio

For more details circle NED-302 K1 on enclosed inquiry slip

DOCK DOOR SHELTERS
truck and railroad car types protect workers from weather

Built to withstand strong winds, these retractable dock door shelters protect workers and merchandise from the elements and help prevent slippery floors and heat

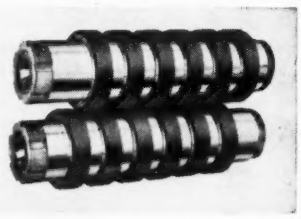


waste. Truck shelters have a valance that drops over the rear top and sides to form a tunnel that seals out the weather. Curtains are drawn in to sides by means of rope and pulley.

Railroad car shelters form a tunnel between dock door and sides of the freight car, automatically adjusting to various car widths. An adjustable rainguard diverts water from the freight car roof. Both types fold against a wall, projecting only a few inches. They can be mounted between door jambs or inside a building if conditions permit. • **Dazzo Products, Inc.**, 528 Park Ave., Brooklyn 5, N. Y.

For more details circle NED-303 K1 on enclosed inquiry slip

ROTARY SLITTING KNIVES
for gang slitting light materials



Long service life between regrindings is a feature of these matched carbide rimmed rotary knives, made for continuous gang slitting of light gage materials. Knives have tungsten carbide outer rims and alloy steel bodies. Carbide rimmed knives slit light gages of various ferrous or nonferrous materials, including high or low carbon steel, silicon, tin plate, aluminum, copper, and brass. Wide range of sizes, arbors, and spacers are available. • **Cowles Tool Co.**, 2086 W. 110th St., Cleveland 2, Ohio.

For more details circle NED-304 K1 on enclosed inquiry slip

Spiral Steel Sleeve Protectors

FREE Central Safety Equipment Co., Elasticone Div.—Many practical applications for Elasticone covers are presented in Bulletin E-60 with complete technical data. These cone-shaped, spirally wound steel sleeves are used to protect precision shafts, guide pins, and lead screws. They are also being used as actuating springs or lifting devices, balance springs in servo-operated heads, and as ball screw dust guards.

For more details circle NED-305 K1 on enclosed inquiry slip

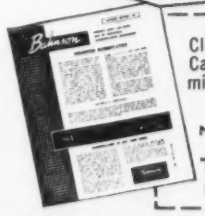
PAYS FOR ITSELF . . .
CONTROLLED HUMIDITY
WITH LOW-COST WATER OR STEAM
Bahnson UNIT HUMIDIFIERS

Guaranteed Units Insure Quality, Reduce Storage and Production Problems

Full line includes 14 units in various sizes, capacities for your needs, any size area. Units have low first cost, low operating cost, automatic controls. Easy to install from ceilings or on walls.

TYPE E

FREE ILLUSTRATED CATALOG



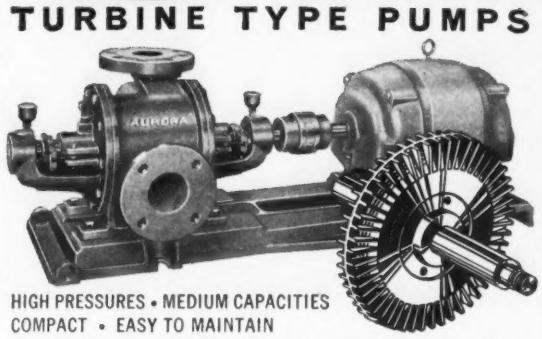
Clip Coupon to Letterhead and Mail Today! Catalog details complete line of 14 humidifiers for your needs, any size area.

NAME _____

THE BAHNSON COMPANY
N-9-0 WINSTON-SALEM, N. C., U. S. A.

For more details circle NED-306 K1 on enclosed inquiry slip

HIGH FLEXIBILITY AT LOW COST with
AURORA APCO®
TURBINE TYPE PUMPS



HIGH PRESSURES • MEDIUM CAPACITIES
COMPACT • EASY TO MAINTAIN

Broad flexibility of application provided by steep head curves . . . variation throughout the curve with minimum change of horsepower requirement . . . accommodation of a wide range of liquids with viscosity to 600 S.S.U. . . . easy field conversion from right to left-hand operation . . . and capacity increased or decreased merely by changing channel rings and impeller.

Pressures to 400 PSI. Capacities to 150 GPM. Temperatures to 275° F. (with water jacketing to 700° F.).

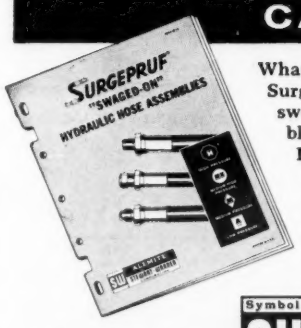
WRITE FOR BULLETIN S-111

AURORA Always PUMPS
AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY
1180 LOUCKS • AURORA, ILLINOIS
LOCAL DISTRIBUTOR IS LISTED IN THE YELLOW PAGES OF YOUR PHONE BOOK

For more details circle NED-307 K1 on enclosed inquiry slip

NOW YOU CAN ORDER "SWAGED-ON" HYDRAULIC HOSE ASSEMBLIES TO YOUR EXACT SPECIFICATIONS FROM THIS

FREE SURGEPRUF® CATALOG!



Whatever the industry application, Surgepruf will furnish the finest swaged-on hydraulic hose assemblies to meet your specific needs. Low, medium, medium-high and high pressure assemblies are available. All are factory assembled and provide a leakproof fluid seal with no braid exposure.

Send for this FREE, illustrated catalog —#40-37—for a full description of the complete Surgepruf line.

Symbol of SW Excellence
ALEMITE DIVISION
STEWART-WARNER CORPORATION
Dept. AK-71, 1850 Diversey Pky., Chicago 14, Ill.

For more details circle NED-308 K1 on enclosed inquiry slip

Fast, one-pass maintenance for BIG floors

CONVERTAMATIC-450
SELF-PROPELLED, POWER STEERING

Cleans 35,000 sq. ft. per hour!

New Convertamatic-450 cleans a 45" swath on each pass over the floor. SCRUBBING: In one pass, the "450" lays the cleaning solution, scrubs, vacuums up dirty solution, drys the floor. POLISHING: In one pass, the "450" polishes or steel-wools, simultaneously vacuums up all dust and loose dirt. Traps the dirt instead of spreading it. Leaves the floor sparkling, free of dust and dirt.

May we prove how the Convertamatic-450 can save you thousands of dollars each year in reduced maintenance costs? Write today for free demonstration and/or free brochure. No obligation. Convertamatics also offered in 21" and 24" models.

ADVANCE
ADVANCE FLOOR MACHINE COMPANY
120 INDUSTRIAL CENTER • SPRING PARK, MINNESOTA

For more details circle NED-309 K1 on enclosed inquiry slip

send for this NEW Snap-on Tool Catalog

128 pages packed with information and pictures—over 4,000 quality work-saving tools for the mechanic or shop.

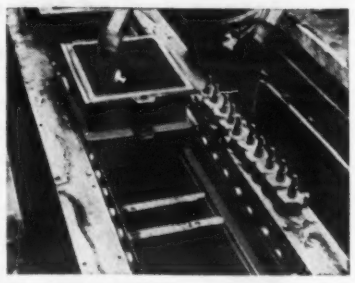
You'll find full details on a wide range of hand tools — wrenches of all types and sizes, including special sockets for use on electric and pneumatic impact guns; a wide range of tools for production, maintenance and field service work.

Ask your SNAP-ON man or write for your free copy of this useful catalog.

FOR ALL INDUSTRY
SNAP-ON TOOLS
8110-J 28th Avenue • Kenosha, Wisconsin

For more details circle NED-310 K1 on enclosed inquiry slip

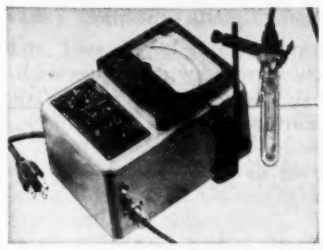
URETHANE RUBBER BEARINGS for heavy dust, sand abrasion jobs



Wear-resistant bearings made of Du Pont Adiprene urethane rubber are now available for application where heavy dust or sand conditions cause quick failure of metal bearings. Photo shows a foundry conveyor line in which 280 Adiprene sleeve bearings replaced metal bearings which were wearing out at a rate of 20 per week due to sand abrasion. With rubber bearings, no replacements have been made after 1 yr of service. Other wear resistant products, in addition to bearings, are available as well. • **Dike-O-Seal, Inc.**, 1209 W. 59th St., Chicago 36, Ill.

For more details circle NED-313 K1 on enclosed inquiry slip

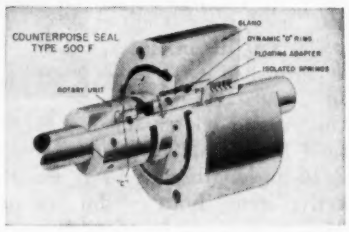
PORTABLE pH METER has ±500-mv scale



Line-operated Electrion II portable pH meter has ±500-mv scale and a full-range shock-resistant combination electrode which affords accurate measurements from 0 to 14 pH at 15 to 70° C. The potentiometric Model II has the same high stability and gives the same precise readings as the Electrion I. Standards include a constant reading meter; an amplifier-stabilized, drift-free indicator; a reference pointer; easily connected solid ground; fast-response, no break-in tubes; and 115-v line operation. Several combination electrodes, including those for up to 130° C, are available. • **Meaker Co.**, 75 River Rd., Nutley 10, N. J.

For more details circle NED-314 K1 on enclosed inquiry slip

MECHANICAL SEAL has positive shaft clamp



Squareness of the Counterpoise mechanical seal ranges from 100 per cent perfect to a maximum tolerance of 0.0005 in. The hydraulic rotating device utilizes a positive shaft clamp to secure the rotating face to the shaft without a set screw. The close tolerance face alignment permits using the seal at speeds up to 50,000 rpm. • **A. W. Chesterton Co.**, 6 Ashland St., Everett 49, Mass.

For more details circle NED-315 K1 on enclosed inquiry slip

NEW

A Fast, Low Cost Way to:

COUNTERWEIGHT....
ADD WEIGHT....
PREVENT REBOUND....
ABSORB SHOCK....

IN A WIDE RANGE OF PRODUCTS

Just flow metal balls or free-pouring metal powder where needed into cavities! This can be done manually or automatically. Weight of the balls range up to 300 pounds plus per cu. ft. Dozens of applications; new ones will suggest themselves. Let us help you with *your* problems. Send your inquiry to us!

BALLAST DIVISION
THE NATIONAL METAL ABRASIVE CO.
3560 Norton Rd., Cleveland 11, Ohio

For more details circle NED-311 K1 on enclosed inquiry slip

Direct-Air VALVES for Easy AUTOMATION

COMPLETE VALVE CATALOG Ready!

MEADMATIC

4-way pilot-operated air valve for direct or remote control—no delicate electrical hookup needed.

A light momentary touch on limit switch actuates main valve piston—response is instantaneous! Catalog free.

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

Write today!

MEAD SPECIALTIES COMPANY
4114 N. Knox Ave., Dept. 1271, Chicago 41, Ill.
PATHFINDER IN AIR POWER AUTOMATION

For more details circle NED-316 K1 on enclosed inquiry slip

CHECK THE WIRE PARTS OR PRODUCTS YOU REQUIRE

We can offer you the finest facilities and most modern equipment available for fast, accurate, economical production of your wire parts or products . . . in a myriad of different shapes, forms and finishes. We also produce our own tools saving you more time and money!

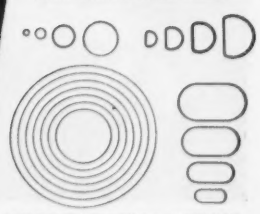
High-speed fully automatic machines fabricate, flatten or punch; thread; spot and butt weld wire forms and assemblies. Extensive plating and enameling equipment enables us to provide the following finishes: baked enamel, bright zinc, zinc chromate, bright nickel, nickel-chrome and brass plating . . . in both barrel and fully automatic processes.

Our engineering staff can offer recommendations and quotations from your sample, blueprint or drawing . . . without delay. Tell us your needs today.

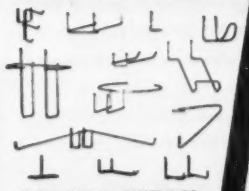
AUTOMATIC PRODUCTION

AUTOMATIC-AND-PRESS

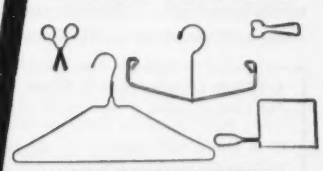
WIRE DISPLAYS AND OTHER WELDED WIRE ASSEMBLIES



AUTOMATIC RINGS, WELDED



PEGBOARD FIXTURES

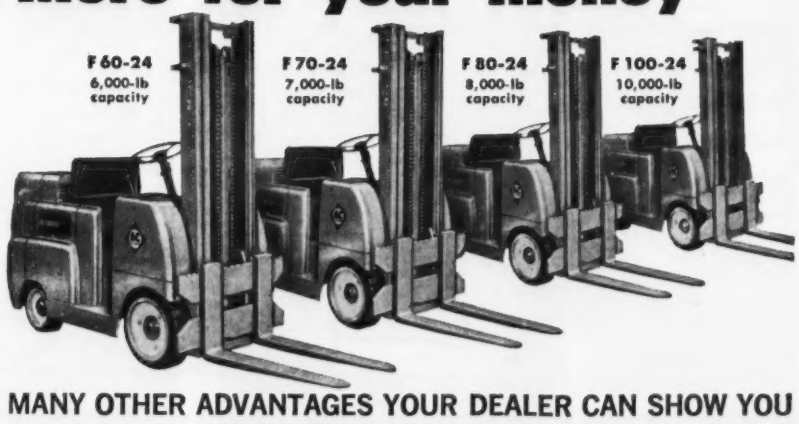


VOLUME PRODUCTION STOCK ITEMS—CUSTOM WIRE FORMS

METALCRAFT Sommer Corporation
SOMMER METALCRAFT CORPORATION
210 Poston Drive • Crawfordsville, Indiana

For more details circle NED-317 K1 on enclosed inquiry slip

NEW ALLIS-CHALMERS LIFT TRUCKS give you more for your money



NEW POWER

Allis-Chalmers' OWN POWER-CRATER engine! Has unique crater-shaped combustion chamber that results in responsive power and maximum fuel economy.

NEW MASTS AND FORKS

• Sturdy steel channels move easily over bearing-mounted load rollers.

• New piston-type cylinder with patented, self-adjusting packing minimizes maintenance.

• New forks have rounded ends and long taper for easy entry under loads.

POWER-CRATER is an Allis-Chalmers trademark.

MANY OTHER ADVANTAGES YOUR DEALER CAN SHOW YOU

• Unusual grade-climbing ability.

• Familiar, automotive-type controls — wide, adjustable seat — unobstructed floor board.

• Easy, quick, maintenance accessibility.

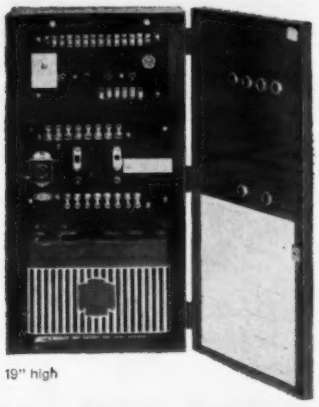
• Versatility of masts, carriages, forks and attachments.

For complete information write for New Bulletin BU-680, Allis-Chalmers, Milwaukee 1, Wisconsin.

BH-178

ALLIS-CHALMERS
Compare and You'll Choose Allis-Chalmers

For more details circle NED-312 K1 on enclosed inquiry slip



19" high

NEW! Fire Alarm Control Cabinet

Kidde's new compact automatic fire alarm combination panel monitors four circuits with local alarm. A one-circuit cabinet is also available with or without the 4-zone annunciator. Self-restoring detectors and noncode break-glass stations can be used. The unit provides for two vibrating bell circuit terminals.

U.L.-approved, the new Kidde unit draws power from any 120 volt AC source and converts it to 6 volts DC for operation. In case of power failure, a trouble alarm sounds, and the entire system automatically transfers to self-contained battery operation. For more information, write to Kidde.

Kidde

Kidde Ultrasonic & Detection Alarms Division
1024 Brighton Road, Clifton, N. J.
Walter Kidde & Company, Inc.

For more details circle NED-318 K1 on enclosed inquiry slip

silicone

VALVE SEAL LASTS

DOW CORNING VALVE SEAL

Dow Corning Valve Seal assures lasting valve lubrication under rugged conditions. This silicone compound stays greaselike from —40 to 500 F, keeps valves operable despite corrosive chemicals. Solves countless valve lubricating problems. Write today on your letterhead for free sample of Valve Seal. Address Dept. A822.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

For more details circle NED-319 K1 on enclosed inquiry slip

COPPUS "Blue Ribbon" Ventilator-Exhausters are portable and easily adaptable . . . for exhausting welding fumes or foul air from enclosed vessels. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
410 Park Avenue, Worcester 10, Mass.

- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

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Company .....
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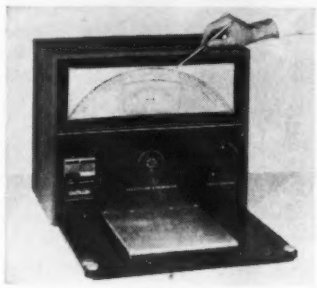
City .....

COPPUS BLOWERS

For more details circle NED-320 K1 on enclosed inquiry slip

ABSORPTION DYNAMOMETER
measures magnitude of restraining torque applied to motors, turbines



Special hysteresis brake reduces starting torque and improves high-speed performance of this 1200 series absorption dynamometer. Instrument applies a restraining torque to motors, turbines, and other prime rotary movers and measures the magnitude of the applied torque. Braking is smooth and without mechanical contact, allowing high input speeds.

Torque is automatically transferred through three separate torque systems, each consisting of a precision disc and a spring, mounted back to back. As dynamometer measures increase in reactive force, the first torque system actuates the second, then the third as force increases, accumulating the torques of all three springs. This eliminates manual changing of springs for testing motors of different capacities.

Dynamometer is accurate within 1 per cent and can apply clockwise and counterclockwise torques without setup changes. It can also be used as a static torque tester. • **John Chatillon & Sons**, 85 Cliff St., New York 38, N. Y.

For more details circle NED-321 K1 on enclosed inquiry slip

MAGNETIC SENSING DEVICES
for magnetic field measurement

Noninductive Hall-Paks, two Hall-Effect magnetic sensing devices, afford high performance standards in magnetic field measurement and in multipliers, transducers, magnetic circuits, and other applications. Transverse field Model BH200 at left, measuring 0.500 x 0.130 x 0.019 in. thick, is furnished with 7½-in. leads of 34-gage copper and has an 0.080 x 0.180-in. active area. Axial field Model BH203 at right has 0.195-in. diameter by 3/16 in. length with 14-in. leads and 0.058 by 0.148-in. active area. Both exhibit low noise output, have high Hall output combined with low zero field output voltage, operate in −40 to 100° C range, and will function continuously at 85° C. Each is priced at $32. • **F. W. Bell, Inc.**, Semi-conductor Div., 1356 Norton Ave., Columbus 12, Ohio.

For more details circle NED-322 K1 on enclosed inquiry slip

For more details circle NED-323 K1 on enclosed inquiry slip

A FISTFULL OF DEPENDABLE POWER...

MERKLE-KORFF IS HEADQUARTERS FOR *fhp* GEARED MOTORS

PERFORMANCE BALANCED

A 50-YEAR BACKGROUND assures you of "Performance Balanced" power units. Power on which you can rely because it is "balanced" to *your* requirements.

Your primary interest in gear motors is "Performance" at reasonable cost. Merkle-Korff "Performance Balanced" gear motors give you just that! Every facet of planning, designing and building your gear motors is *balanced* to provide dependable performance and long life.

Chief Merkle-Korff characteristics are small size, high starting torques, less weight, long life . . . and dependability. Thousands of combinations of motor types, speeds, torques, brakes, fans, motor covers, mounting facilities, are at our command when we design for your applications. This is why Merkle-Korff units are considered the best by original equipment manufacturers.

Our applications engineers are at your service; there is no obligation. Write us or telephone today.

MERKLE—KORFF MK GEARED MOTORS

MERKLE-KORFF GEAR CO.
220 North Morgan Street • Chicago 7, Illinois
Telephone: MO nroe 6-1900

For more details circle NED-324 K1 on enclosed inquiry slip

an ESTABLISHED INDUSTRY STANDARD

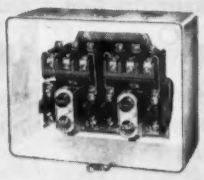
Size 1
in NEMA Type 1 Enclosure

BULLETIN 609
MANUAL STARTING SWITCH

The design of Bulletin 609 manual starting switches is so simple, it is automatically trouble free. The positive, quick-make, quick-break operating mechanism prevents contact teasing, and greatly extends contact life. Double break, silver alloy contacts never need servicing. The danger of motor burnout from overload is eliminated by two permanently accurate and reliable thermal relays. If you do not already know about the A-B Bulletin 609, please write for complete information, today.

Reversing and 2-Speed Starters Are Also Available

Both Bulletin 609RS (reversing) and Bulletin 609TS (two-speed) switches are mechanically interlocked. Both units in each switch have two overload relays.



Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
QUALITY MOTOR CONTROL

For more details circle NED-325 K1 on enclosed inquiry slip

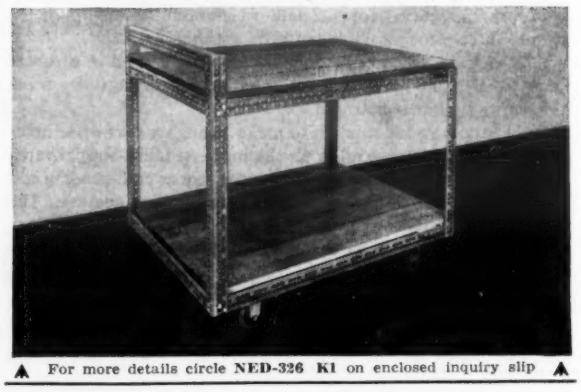
NEW CONVENIENCE . . . NEW ECONOMY

ACME STEEL SLOTTED ANGLE KITS

For the first time—"pre-cut" kits of adaptable, adjustable, reusable Acme Steel AIM Brand Slotted Angle. Carts, tables, benches . . . die, bar and sheet stock racks, storage units—nearly 300 types and sizes of structures. These ready-to-assemble units offer considerable material savings, plus the time and labor savings made possible only by this most versatile framing. Write for complete-line catalog.

ACME STEEL — IDEA LEADER IN FRAMING

ACME STEEL COMPANY, Dept. NBD-101
135th St. & Perry Ave., Chicago 27, Ill.



For more details circle **NED-326 K1** on enclosed inquiry slip

ACRAWATT — ELECTRIC HEATING ELEMENTS — "PRECISION IN HEAT"

SPEEDEGREASER

USES SAFE-MORE EFFECTIVE PERCHLORETHYLENE SOLVENT VAPOR

Degreases 100-125 lbs. metal parts per hour. Rapid electrical heating. Rapid recovery. THERMOSTATICALLY CONTROLLED. Operates on 115—230 Volts A.C.

18" DIAMETER UNIT
Only $94.50 COMPLETE
F.O.B. FRANKLIN PARK, ILL.

Soon pays for itself. Small shops find its low cost attractive. Large plants using one in each department where needed find central degreasing facility unnecessary. All agree it's EFFICIENT . . . FAST . . . CONVENIENT . . . SAFE . . . ECONOMICAL . . . RUGGED—a big improvement.

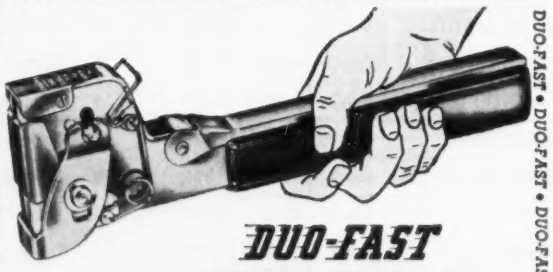
FOR immediate shipment or further information—Write

SERIES D-2

ACRA ELECTRIC CORP.
9907 PACIFIC AVENUE
Franklin Park, Illinois

For more details circle **NED-327 K1** on enclosed inquiry slip

•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•



DUO-FAST HAMMER TACKER

Drives tight-holding staples automatically as fast as you swing it

For fast manual tacking you can't beat DUO-FAST Hammer Tackers. A great tool for 1001 fastening jobs in shipping, packaging and production work.

You'll like the perfect balance and easy one-hand operation. Five fully guaranteed models to drive 3/16" to 9/16" DUO-FAST Staples.

Send today for details on how Hammer Tackers speed and simplify your work.

FASTENER CORPORATION, 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

For more details circle **NED-328 K1** on enclosed inquiry slip

FRACTIONAL-HP GEARMOTORS
deliver exact speeds, torques

Fractional - horsepower alternating - current gearmotors are offered in hysteresis synchronous and low slip induction types, with torques reaching up to 300 oz-in. at 1 rpm in the latter type. The hysteresis synchronous unit has constant speed regardless of line voltage or load variations. Shaft oscillation is virtually nonexistent. The induction unit is designed for applications requiring high starting torque and high full-load efficiency. Former is offered 2-in. diameter frame, whereas latter is available in either the 1¾ or 2-in. diameter frame. Lengths vary from 3¼ to 6 in. depending upon shaft length desired. Motor and gear housings are aluminum, cast around the laminations. • **Ashland Electric Products, Inc.**, 32-02 Queens Blvd., Long Island City 1, N. Y.

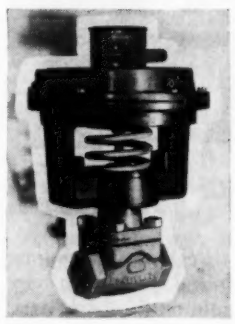
For more details circle **NED-329 K1** on enclosed inquiry slip

TINY PLASTIC FASTENERS
machine screws, nuts, set screws

Extremely small plastic fasteners added to line of Nylo-Fast products are machine screws, nuts, and set screws. Sizes include 0-80 x 3/32 in. through ⅜ in. and 1-72 x ⅛ in. through ½ in. Machine screws have standard slotted heads, whereas set screws are a slotted headless type. Nuts are of minimum 1/16-in. thickness. Fasteners are made of Du Pont Zytel 101, although such materials as Lexan, polyvinyl chloride, and Lucite are also available. • **Anti-Corrosive Metal Products Co.**, Box 1894, Albany 1, N. Y.

For more details circle **NED-330 K1** on enclosed inquiry slip

FLOW CONTROL VALVES
regulate small flows of air, water



Line of compact valves for regulating the flow of small streams of air, water, steam, or chemical solutions provides ½, ¾, and 1-in. body sizes. Lightweight diaphragm - actuated, high - performance diaphragm, ultra-low-flow and two electrically actuated models comprise the line. The two electric motor actuators afford two-position, floating, or proportional control and stroking speeds as low as 7.5 sec. One is an Actionator motor having high thrust for systems requiring high shutoffs and close valve positioning. The other is a Modutrol motor with fail-safe features. Valves are offered in a range of materials and body ratings with both screwed and flanged connections. • **Minneapolis-Honeywell Regulator Co.**, Valve Div., Fort Washington, Pa.

For more details circle **NED-331 K1** on enclosed inquiry slip

•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•

NEW DUO-FAST STAPLE NAILER

Just a flip of the trigger drives this 2" heavy duty staple

Drives 4 tight-holding staples in less time than it takes to hammer one nail.

Ideal for assembling crates, boxes, frames and expendable skids. Magnesium light...easily portable...a one-hand tool...operates at 60-100 psi. Built-in safety features prevent accidental firing.

Send today for complete details on how this new Staple Nailer cuts packaging and crating costs.

FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

For more details circle **NED-332 K1** on enclosed inquiry slip

This is the door . . . This is the motor operator . . . This is the name

KINNEAR® ROLLING DOORS
Saving Ways in Doorways

— the world's favorite push-button controlled, space-saving, upward-acting doors that are built to give you more protection and longer, more efficient door service at lower cost.

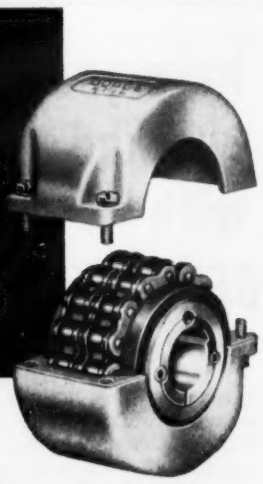
The KINNEAR Manufacturing Company

Representatives in All Principal Cities — FACTORIES: 3017 Fields Avenue, Columbus 16, Ohio; 1742 Yosemite Avenue, San Francisco 24, Calif.

For more details circle **NED-333 K1** on enclosed inquiry slip

NOW!

TAPER-LOCK CHAIN COUPLINGS



Off the shelf... No reboring

Dodge Chain Couplings provide strong, positive, compact coupling of shafts, with accommodation for usual slight misalignment. Like Dodge Flexible and Rigid Couplings, these Chain Couplings employ the famous Taper-Lock Bushings. No reboring required. Available in desired sizes, with or without aluminum covers, from distributors' stocks. For detailed information write for technical bulletin.

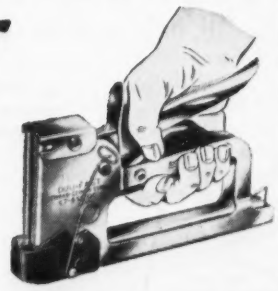
Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

For more details circle **NED-334 K1** on enclosed inquiry slip

•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•

DUO-FAST OUTWARD CLINCH STAPLER



Clinches staples without an anvil

Drives ½" or 9/16" staples . . . not straight down but clinches them out and up. Staple does not penetrate corrugated. Adjustable for amount of flair of staple leg. A problem solver for fastening tags and labels to filled corrugated boxes. Also widely used for stapling insulation around air ducts.

Send today for information on DUO-FAST Outward Clinch Stapler. Ask for folder FT-8.

FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

For more details circle **NED-335 K1** on enclosed inquiry slip

GET GREATER SAFETY PROTECTION in your plant with

NOW...Galvanized Standard Finish at NO EXTRA COST

IMPORTANT FEATURES

- ★ All one piece, not welded, riveted or expanded.
- ★ Open space in excess of 55% of area for easy access of light and air.
- ★ No extra supports needed — channels are integral part of the material.
- ★ Self cleaning.
- ★ Cut and installed like lumber by your own maintenance force.
- ★ Low in original cost.
- ★ For balconies, no extra sprinkler heads needed.
- ★ Easy to stand on.
- ★ Cool in summer, warm in winter.

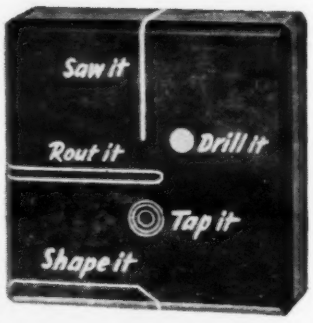
Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads. Write for new catalog. Distributors in all principal cities. Consult yellow pages in phone book under "GRATING"

122

PRODUCTS DIVISION | THE GLOBE COMPANY
4002 South Princeton Avenue • Chicago 9, Illinois

For more details circle NED-336 K1 on enclosed inquiry slip

have you worked with BENELEX... the dense, laminated hardboard?



SEND FOR THIS FREE SAMPLE...and see for yourself what this revolutionary material can do for you. Benelex accepts any machining operation, quickly and easily, to close tolerances. It's light—just 1/6 the weight of steel. Every bit of it is usable—it's a genuine Masonite hardboard product.

What can you do with Benelex? Find out by sending for your free sample and book of specifications and properties.

Write to Masonite Corporation, Dept. NED-10, Box 777, Chicago 90, Ill.

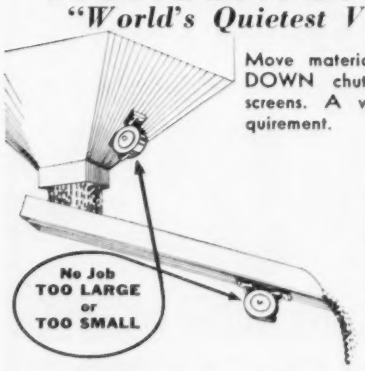
MASONITE
shows the way

Masonite and Benelex are registered trade-marks of Masonite Corporation® —manufacturer of quality panel products for building and industry.

For more details circle NED-337 K1 on enclosed inquiry slip

VIBROLATOR® VIBRATION INDUCERS

"World's Quietest Vibrators"

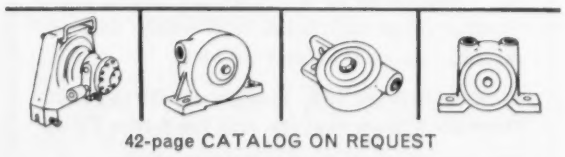


Move materials OUT of hoppers, DOWN chutes and THROUGH screens. A vibrator for every requirement.

FEATURES:

- LONG LIFE
- RUGGED
- POWERFUL
- UNIQUE DESIGN
- PATENTED THROUGHOUT
- UNCONDITIONAL GUARANTEE

FREE 30-DAY TRIAL ON ALL SIZES.
Stocking distributors coast-to-coast listed under VIBRATORS in the Yellow Pages.



42-page CATALOG ON REQUEST

FIND US FAST IN THE YELLOW PAGES

Manufactured by:
MARTIN ENGINEERING COMPANY
Specializing in Applied Vibration
155 Nedlow St., Neponset, Illinois

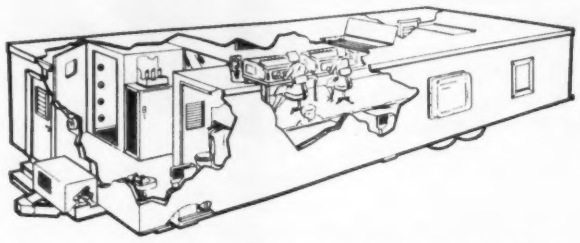
VIBROLATOR®

® VIBROLATOR is Martin Engineering's registered trade mark for vibration inducers and vibrator accessories.

For more details circle NED-338 K1 on enclosed inquiry slip

PACKAGED MOBILE CLEAN ROOM
500-sq ft unit is expandable, has air conditioning system

Usable in critical assembly, testing, or packaging operations, Caemco packaged clean rooms are fully mobile and complete with absolute filtration, humidity



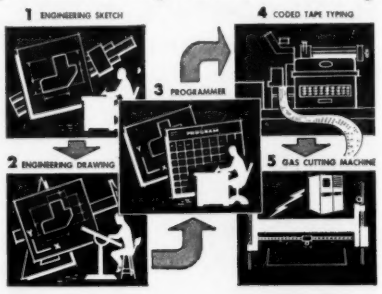
and temperature controlled air conditioning, air shower, flush lighting, door interlock, toilet facilities, dressing room, and vinyl floors and walls. Delivered ready to use, it can also be equipped with special facilities such as shoe cleaners, vacuum cleaners, dust counters, sticky-mats, and fume or sterile hoods.

Filters and light bulbs are serviced from the outside. This clean room can be expanded to meet increased needs by attaching additional packaged rooms. The interlock door allows adding increased space, each area being served by its own air-handling system. • **Controlled Atmosphere Enclosures Mfg., Inc.**, Caemco Clean Room Div., Box 5864, Jacksonville 7, Fla.

For more details circle NED-339 K1 on enclosed inquiry slip

FLAME-CUTTING MACHINE
automatic type is tape controlled in main and auxiliary functions

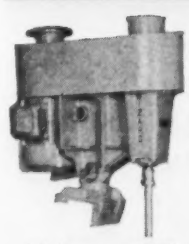
Straight lines and contours are cut in plate of any length, 22 ft wide, and up to 6 in. thick by this numerical control tape flame-cutting machine. Cutting system consists of two main components, the G-E Mark Century numerical contour control system and the cutting machine itself.



Predetermined, numerically coded instructions on tape provide the input data to direct all operations of the cutting machine. After initial positioning by an operator, all operations are automatic. Auxiliary functions are also programmed on the tape. Cutting speeds are controlled from 2 to 35 ipm, and traverse speed for positioning is programmable up to 150 ipm. Machine is equipped with four cutting torches and has an accuracy within ±1/64 in. • **Air Reduction Sales Co.**, 150 E. 42nd St., New York 17, N. Y.

For more details circle NED-340 K1 on enclosed inquiry slip

AMERICA'S MOST
RELIABLE MIXERS
A NEW CONCEPT IN PORTABLE AGITATION
Patterson -FOUNDRY'S WIZARD



Delivers variable speeds through compound pulleys coupled by V-belts, range 500 r.p.m. to 4,000 r.p.m. Adjusts by a simple handle on 2 H.P. and the turn of a wheel on 5 H.P. units. Highly recommended for a broad range of mixing jobs. Output speeds of 9 to 1 with the 2 H.P. and 8 to 1 with the 5 H.P.

Motors are 1750 r.p.m.—220/440 Volt 2 phase, 60 cycle, Class 1, Group D, Explosion proof.

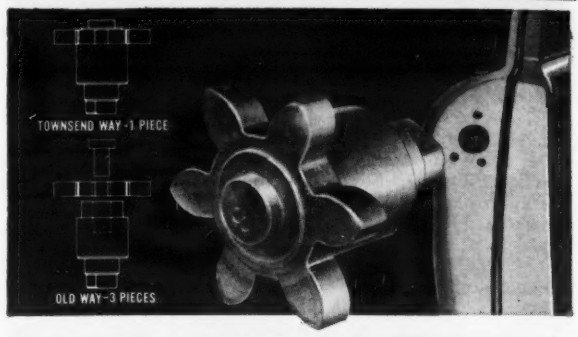
Mounting—2 H.P. Cast Aluminum double clamp bracket—5 H.P. double clamp bracket, or optional four bolt mounting; also flange mounting arrangements with base plates or stuffing box.

Many sizes available from lower power units than mentioned above to those up to 60 H.P.

Write today for details on Wizard Portable Agitators

PATTERSON FOUNDRY AND MACHINE CO.
East Liverpool, Ohio • Toronto, Ont., Canada

For more details circle NED-341 K1 on enclosed inquiry slip



Auto maker saved $22 per thousand with Townsend Ultra-Special Part

This Ultra-Special part is made by the Townsend Ultra-Special cold-forming process for $22 less per thousand pieces than the former three-piece assembly made by another method.

One of these automobile door latch rotors is used in each car door by a major manufacturer. Their annual savings—by using this part—is quite substantial.

Cold forming adds strength to make a tougher part while holding dimensional tolerances. In developing these Ultra-Special parts, Townsend's engineers combine such processes as cold-heading and impact extrusion—or, interim heat treatments and coatings. The result is far beyond ordinary limitations.

You benefit directly by using Townsend Ultra-Special parts in the assembly of your products. Your increase in profit potential is a direct combat to competition. **Write Townsend Company, P.O. Box 71G, Ellwood City, Pennsylvania.**

In Canada: Parmenter-Bulloch Manufacturing Co., Limited, Gananoque, Ontario

For more details circle NED-342 K1 on enclosed inquiry slip

Send for FREE Data Book...

LET BURT MAKE AIR WORK FOR YOU

391 Standard Models To Choose From
PLUS Complete Facilities To Design And Manufacture Special Ventilators

BURT VENTILATOR	TYPE	CAPACITY (CFM)	SIZES	MODELS	DISCHARGE
FREE-FLOW GRAVITY	Gravity	113 to 35,560	16	16	Upward
LO-HYT GRAVITY	Gravity	AS REQUIRED	18	18	Downward
MONITOR	Gravity	MADE TO ORDER		1	Upward
MONOVENT (Ridge)	Gravity	48 to 5,184	15	15	Upward
REVOLVING	Gravity	123 to 10,931	17	17	Sideward
STANDARD GRAVITY	Gravity	35 to 24,890	19	19	Upward
THERMAVENT	Gravity	MADE TO ORDER		2	Upward
CENTRIFLOW	Power	65 to 36,430	56	184	Downward
FREE EXHAUST FAN	Power	5,000 to 75,550	7	17	Upward
FREE FLOW FAN	Power	1,040 to 99,050	15	35	Upward
LOW TYPE	Power	337 to 47,400	15	60	Downward
STANDARD FAN	Power	685 to 15,000	10	10	Upward

There is a type of Burt Ventilator to meet any ventilating problem that Roof Ventilators can solve. Burt's specialized engineering, equipment and craftsmanship — from 60 years of designing and building ventilators — is your assurance of complete satisfaction. Cost economies are assured from almost 400 *standard* models that are quickly available.
Write for Burt's Complete Line Data Book — it's free!

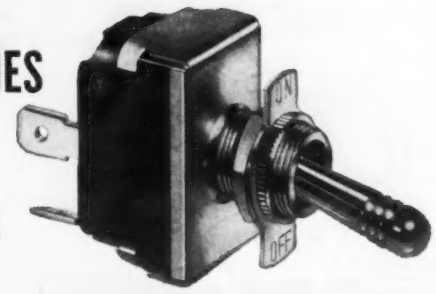
VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company
50 E. South Street Akron 11, Ohio

MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

For more details circle NED-343 K1 on enclosed inquiry slip

McGILL TOGGLE SWITCHES BUILT BETTER TO LAST LONGER



High standards of design, workmanship and materials guarantee long-life, cut replacement costs. The housing is impact resistant, dust- and vibration-proof. Models are available in 6 amp. to 20 amp. ratings, SP and DP with added DC and HP ratings. Choice of terminals.
From a complete line of momentary contact, rocker, toggle, and special-design switches.

Available from Electrical Wholesalers

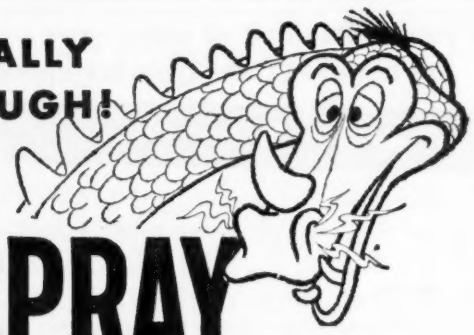
engineered electrical products McGILL precision needle roller bearings

Send for McGill Electrical Specialties Catalog No. 84.

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

▲ For more details circle NED-344 K1 on enclosed inquiry slip ▲

REALLY TOUGH!



SPRAY 66 INDUSTRIAL SPRAY CLEANER AND DEGREASER

- NON-TOXIC
- NON-FLAMMABLE
- NON-CORROSIVE
- RUST-INHIBITING

SCIENTIFIC NEW ALL PURPOSE CLEANER

PECK'S PRODUCTS CO.

610 E. CLARENCE • ST. LOUIS 15, MISSOURI

▲ For more details circle NED-345 K1 on enclosed inquiry slip ▲

ENGINEERED *high volume production of*

SHELLS EYELETS STAMPINGS

Max. Blank: 6-inches
Max. Draw: 4¼-inches

ENGINEERING ASSISTANCE

Whenever a helpful assist is in order, Cly-Del engineers are available to cooperate with you from the planning stages through design, development, and production.

TOOLING FACILITIES

Under the same roof, with the same supervision and same undivided responsibility is the Cly-Del tooling facility where the tools for your production can be built, used in the Cly-Del manufacturing departments, and stored for your future use.

INQUIRIES

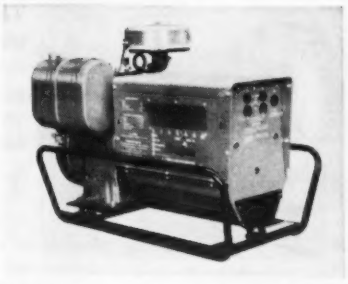
If you are concerned with a need for high-volume, high-quality shells, eyelets, or stampings we invite your inquiry (for more information or for an estimate) and promise fast, accurate action.

WRITE FOR BROCHURE

CLY-DEL MFG. CO.
21 SHARON ROAD
WATERBURY 20, CONNECTICUT

▲ For more details circle NED-346 K1 on enclosed inquiry slip ▲

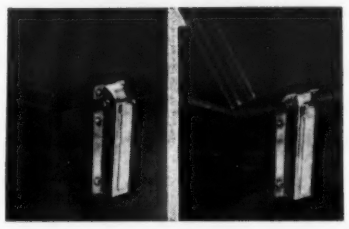
WELDING/POWER PLANT produces 180 amp or 3.5 kw



A smaller version of company's AEA-200-L gasoline engine driven welder/power plant, the Memco Bantam has a 12.3-hp single-cylinder Kohler air-cooled engine which drives a rotating field generator. Unit will produce 180 amp of alternating-current welding power on 100 per cent duty cycle; 3.5 kw of 115-v single-phase ac; or 1 kw of 115 v dc while welding. • **Miller Electric Mfg. Co.**, Appleton, Wis.

▲ For more details circle NED-347 K1 on enclosed inquiry slip ▲

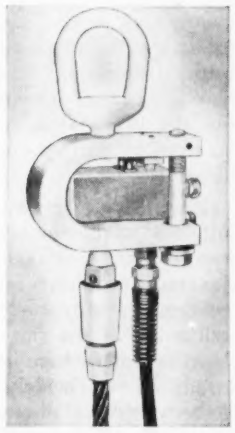
LID SUPPORT-HINGE has counterbalancing mechanism



This self-balancing combination lid support and hinge for hi-fi, radio, TV, and instrument cabinets is installed on the outside to allow full use of cabinet inside. A tension adjustment screw accommodates a wide range of lid sizes and weights with the same spring. Made of steel, unit has either brass plate lacquer or statuary bronze finish. For lids requiring only one support-hinge, a companion hinge is offered which is identical in appearance, but without the counterbalancing mechanism. • **National Lock Co.**, 1902 Seventh St., Rockford, Ill.

▲ For more details circle NED-348 K1 on enclosed inquiry slip ▲

SAFETY OVERLOAD SWITCH for crane and hoist service



Overloading of cranes and hoists is prevented automatically by this cable-socket type Dyna-Switch which stops lifting motor immediately if an attempt is made to lift a load beyond safe preset limits. Red lights or buzzers can be used as alternatives when warnings only are needed. Switches have safety factor far in excess of cable to be used, and installation is only a matter of minutes with ordinary tools. Unit is available with cable socket attachment on both sides, if desired. • **W. C. Dillon & Co.**, 14620 Keswick St., Van Nuys, Calif.

▲ For more details circle NED-349 K1 on enclosed inquiry slip ▲

POTDEVIN Semi-Automatic Feed Label Paster

Instant adjustment for labels up to 7½" wide. Operator's hands always free. Speeds-up production with minimum effort. Write for literature.

ESTABLISHED IN 1893 POTDEVIN

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

▲ For more details circle NED-350 K1 on enclosed inquiry slip ▲

NOW! *Adjustable Diameter and Open*

THOMSON BALL BUSHINGS

The BALL Bearing for *all* your LINEAR MOTIONS

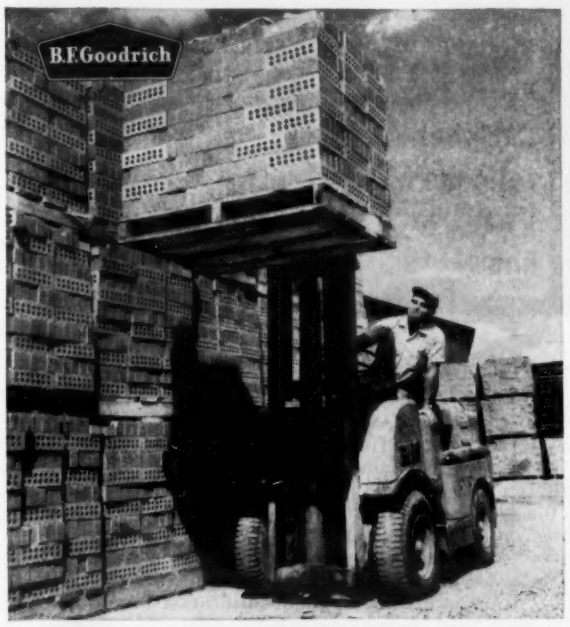
LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of ⅛" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings ... Sleeve Bearings of DuPont NYLON

▲ For more details circle NED-351 K1 on enclosed inquiry slip ▲



B.F.Goodrich Steel Protected tires take the bite out of brick handling

TW Analysis Man's recommendations result in longer tire service, lower tire costs

At Bowerston Shale Co. fork lift trucks transport 3700-lb. loads of brick from kiln to storage area, then to trucks and freight cars. An efficient system, except that chipped bricks on concrete floors were forever putting the bite on tires and the company pocketbook. "We could count on a new tire every time a truck ran over chipped brick," says the plant superintendent.

To stop rising downtime and costs, the company called in the B.F.Goodrich Tire & Wheel Analysis Man. He studied the situation, then recommended B.F.Goodrich Steel Protected pneumatic industrial tires. They're built with 2 plies of steel cable under the tread that shrug off impacts and defy punctures. Brick chips have yet to put the bite on BFG Steel Protected tires. They've stood up so well many can be retreaded!

This case history is typical of the savings B.F.Goodrich Tire & Wheel Analysis Men offer. Without cost or obligation, the TW Analysis Man will study your setup. Then he'll recommend the BFG tires that will give longest service at lowest cost—advice that is unbiased because B.F.Goodrich makes a complete line of industrial tires. Take advantage of this free BFG service. Mail the coupon today.

A special B.F.Goodrich consulting service is available to manufacturers of materials handling equipment.

B.F.Goodrich
Specify B.F.Goodrich tires when ordering new equipment

The B.F.Goodrich Company
Department TW-853
Akron 18, Ohio

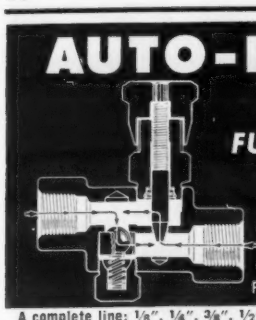
Please send me additional information on your free Tire and Wheel Analysis Plan.

Name_____
Company_____
Street_____
City_____ Zone____ State_____

▲ For more details circle NED-352 K1 on enclosed inquiry slip ▲

AUTO-PONENT®

HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841, 174

A complete line: 1/8", 1/4", 3/8", 1/2", and 3/4" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

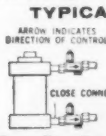
Model F Standard Flow Control Valve or Model N Needle Valve

Model KF Knob and Dial Flow Control Valve or Model NN Needle Valve.

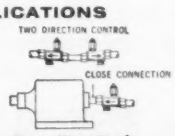
Model PF Knob and Dial Flow Control Valve or Model PN Needle Valve for panel mounting.

Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS



Controlling Double Acting Cylinder

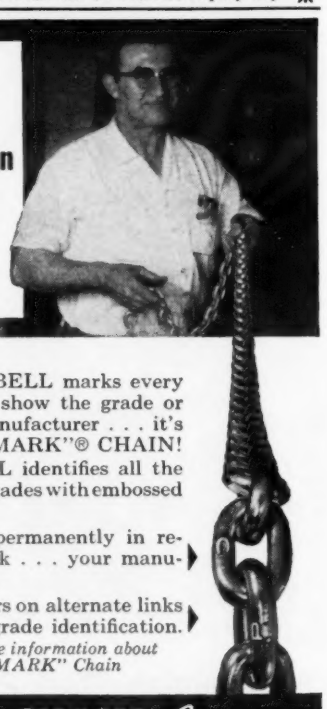


Controlling Single Acting Cylinder

AUTOMATION AUTO-PONENTS INC. COMPONENTS ® 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle **NED-354 K1** on enclosed inquiry slip

NOW... Every link of Campbell Chain tells me what I want to know!



CAMPBELL CHAIN

CAMPBELL marks every link to show the grade or the manufacturer . . . it's "HALLMARK"® CHAIN!

Yes, only CAMPBELL identifies all the popular welded chain grades with embossed letters on every link!

The Campbell "C" is permanently in relief on every other link . . . your manufacturer identification.

The grade mark appears on alternate links . . . your permanent grade identification.

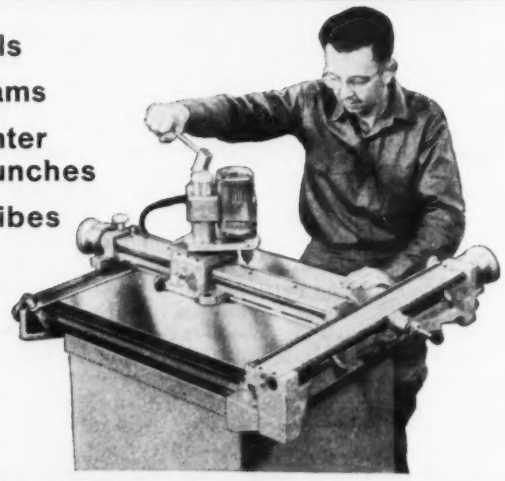
Write today for complete information about Campbell "HALLMARK" Chain

CAMPBELL CHAIN *Company*

FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: E. Cambridge, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

For more details circle **NED-355 K1** on enclosed inquiry slip

Drills
Reams
Center punches
Scribes



STRIPPIT FLEX-O-DRILL

Saves time. No base line drawings or vernier height gauges required. Anybody who can read blueprints and knows anything about layout practice can work the STRIPPIT Flex-O-Drill in just a few minutes.

Greater accuracy. Adjustable steel tape positions bridge and drill carriage rapidly—then micrometric gauges bring setting to the nearest 0.001" in seconds. Capacity is 1/4" mild steel—up to 24" width—any length.

Ask about free demonstration in your plant.

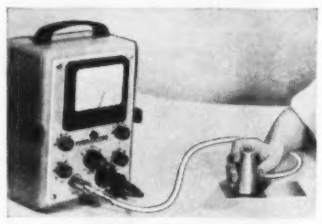
A UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.

227 Buell Road • Akron, New York

For more details circle **NED-356 K1** on enclosed inquiry slip

COATING THICKNESS GAGE for aluminum, nonferrous metals

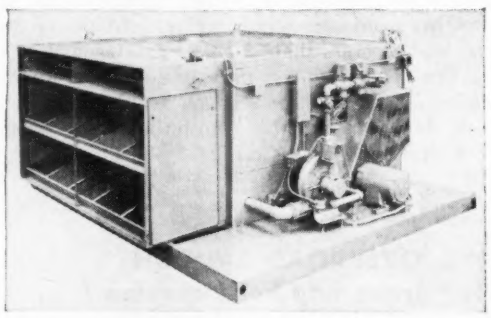


The thickness of nonconductive coatings on nonferrous base metals, a nonferrous coating on nonferrous base, a nonferrous coating on a nonconductor, and the conductivity of a nonferrous metal can be measured accurately with this Type EC Permascope. The compact, portable, 110-v ac eddy-current instrument has two direct-reading scales with thickness measurement ranges of 0-0.001 in. or 0-005 in., plus a conductivity range of 16 to 110 per cent IACS. Anodized aluminum plates and plastic foils in accurately determined thicknesses as well as a copper standard are furnished for calibrating the instrument. Slip-on adapters permit checking cylindrical surfaces and narrow strips. • **Twin City Testing Corp.**, 533 S. Niagara St., Tonawanda, N. Y.

For more details circle **NED-357 K1** on enclosed inquiry slip

FORCED AIR SPACE HEATERS for plants where gases or fumes make frequent air changes necessary

Plants in which noxious gases, fumes, dust, or vapors are released during manufacturing and expelled by exhaust fans can be effectively served by Directflow

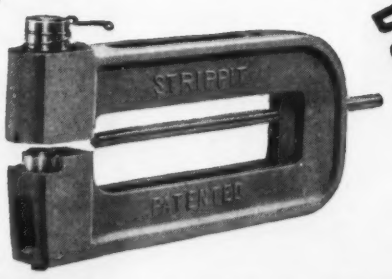


make-up air heater. The direct gas-fired unit corrects negative pressure conditions year 'round and supplies comfort ventilation in summertime. Combustion takes place in the air stream itself, however gases emitted into the plant along with the heated outside air are less than 10 parts per million, even with a maladjusted burner.

Equipped for either indoor or outdoor installation, unit is available in seven models ranging in capacity from 11,000 to 60,000 cfm and up to 6,750,000 Btu. Maximum turndown ratio is 25:1. The complete package requires only fuel and electrical connection after positioning at the site. It lends itself well to difficult plant layouts where tempered make-up air must be introduced to widely separated locations through smaller units or ductwork. Two or more units can be banked. • **Dravo Corp.**, Neville Island, Pittsburgh 25, Pa.

For more details circle **NED-358 K1** on enclosed inquiry slip

PROFIT UP • INVENTORY DOWN



WITH **STRIPPIT** SELF-CONTAINED HOLE PUNCHING **UNITS**

If you punch material up to 3/4" thick, consider the advantages of STRIPPIT self-contained units. Various patterns of round and shaped holes can be quickly and easily assembled. The units may be used over and over again in any combination for punching and notching sheet metal. No large die inventory... just interchangeable STRIPPIT units. Practically no press down time... complete set-up goes into press as soon as previous run is finished. No "dead storage"... both units and components are interchangeable... just disassemble and use for a new pattern. Result... PROFIT UP!

If you are interested in increasing your company's profit, consult our STRIPPIT Tool and Methods Engineers or write for Catalog.

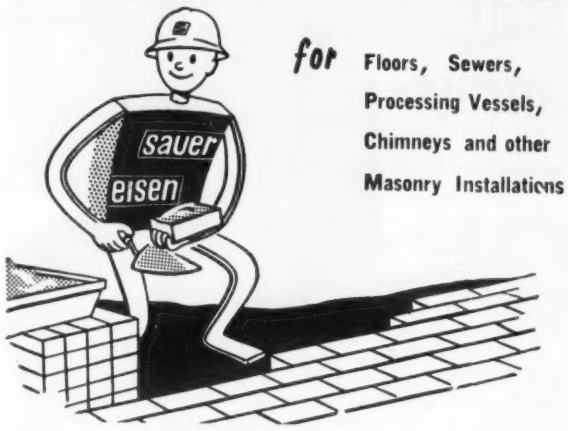
A UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.

227 Buell Road • Akron, New York

For more details circle **NED-359 K1** on enclosed inquiry slip

Specify this better Corrosion-Resistant Mortar



for Floors, Sewers, Processing Vessels, Chimneys and other Masonry Installations

Sauereisen Resin Cement No. 40 has excellent adhesion to acid brick and tile, withstanding acids, alkalies, foods, oils, water and steam. Ask for Data Sheets.

Sauereisen Cements Co., Pittsburgh 15, Pa.

SAUEREISEN RESIN CEMENT **No. 40**

For more details circle **NED-360 K1** on enclosed inquiry slip

if you're thinking of using the newest screw-type fasteners...

APEX Power Bits for SOCKET HEAD screws (Allen type)

TYPE OF SHANK	HEX SIZE Nominal	HEX SIZE Actual	TO BE USED IN Socket Head Cap Screw	TO BE USED IN Socket Set Screw	Overall Length	Part Number
1/4" HEXAGON DRIVE	1/16	.062	#1	3 & 6	1-15/16	AM-02
	5/64	.077	#2, #3	8	1-15/16	AM-02A
	3/32	.092	#4, #5, #6	#10	1-15/16	AM-03
	7/64	.108	#6	—	1-15/16	AM-03A
	1/8	.124	#8	1/4	1-15/16	AM-04
	9/64	.139	#8	—	1-15/16	AM-04A
	5/32	.155	#10	5/16	1-15/16	AM-05
	3/16	.187	1/4	3/8	3	AS-05
	1/4	.249	—	1/2	3-1/2	AN-08
	5/16	.312	5/16	5/8	3-1/2	AN-10
	3/8	.374	3/8	3/4	3-1/2	AN-12
	1/2	.498	1/2	1	3-1/2	AN-16
	9/16	.560	9/16	1-1/8	3-1/2	AN-18
	5/8	.623	5/8	1-1/4	3-1/2	AN-20

Insert and power bits to drive the new 7/64" and 9/64" hex sizes have been added to the complete range of Apex tools to drive socket head screws, 1/16" to 5/8" hex sizes.

...the tools you'll need to drive them are already in stock— at Apex!

Cap screw sizes shown in color are new 1960 standards dimensions

APEX SCREWDRIVING TOOLS Standard and Magnetic Write for Catalog 30-C

THE APEX MACHINE & TOOL COMPANY
1046 S. Patterson Blvd. • Dayton 2, Ohio

For more details circle **NED-361 K1** on enclosed inquiry slip

Uses for the STRIPPIT Super 30 Fabricator are practically unlimited. It will punch sheet material up to 1/4", notch and nibble sheet material up to 1/8". Micrometric gaging both front to back and side to side provides fast, extremely accurate work positioning. Adjustable worktable allows punching of angles and formed parts. Indexed holder permits rotation of shaped punches to any angle. Optional STRIPPIT Duplicator converts Super 30 to low cost production punching unit. Catalog 30S available on request.

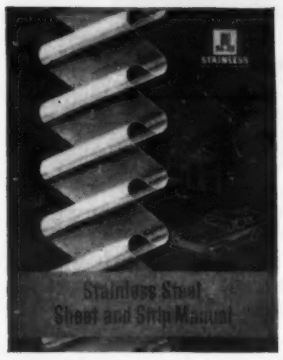
A UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.

227 Buell Road • Akron, New York

For more details circle **NED-362 K1** on enclosed inquiry slip

New Design Manual



Stainless Steel Sheet and Strip

Here's a brand new, 34 page manual giving design data on J&L Stainless Steel sheet and strip. Written to help the design engineer to select the best stainless for the requirements of his specific applications, it presents properties and performance data in easy-to-use form.

Here are just a few of the subjects covered:

- MECHANICAL PROPERTIES
- CORROSION DATA
- FABRICATION INFORMATION
- CONVERSION TABLES

Plus a useful Stainless Steel Selector chart . . . and much more

Send Today for your Free Copy

WRITE TO DEPT. 173D-16

Jones & Laughlin Steel Corporation
STAINLESS AND STRIP DIVISION
Box 4606, Detroit 34, Michigan

STAINLESS
SHEET • STRIP • BAR • WIRE

For more details circle NED-363 K1 on enclosed inquiry slip

PAINT STRIPPING CLINIC!

Send Us Your Tough Stripping Problems for Fast Action!

14th YEAR OF **BECK** PAINT STRIPPING CLINICAL SERVICE Saves Thousands of $$$ for Customers—Who Now Use World-Famous...

EPOXYSTRIP FASTEST WORKING LONGEST LASTING

Better find out for yourself . . . about Epoxystrip, Econostrip and other Beck Paint Remover lines and formulations. Use the BECK CLINIC SERVICE — send us several parts, sections, or test panels (properly tagged) of the work to be stripped.

Write or 'phone giving us essential information—your problem details, requirements, tanks available, hot or cold, etc. This service, and our prompt report, are free, with no obligation.

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

Beck Strippers outstrip all others — removing organic finishes, epoxies, etc., as easily as baked enamels, lacquers, etc. No stripping scum — clean rinsing!

WRITE FOR FREE FOLDER

BECK EQUIPMENT & CHEMICAL CO.
3350 WEST 137th STREET — CLEVELAND 11, OHIO

For more details circle NED-364 K1 on enclosed inquiry slip

PORTABLE MIXER for concrete or mortar

Powered by a 115-v ¼-hp electric motor, this portable mixer can be used to mix concrete and mortar, as well as many other wet or dry materials. Disassembled without tools and readily transported to the job, it features a four-blade batch-a-minute mixing action. • **Gilson Brothers Co.**, Plymouth, Wis.

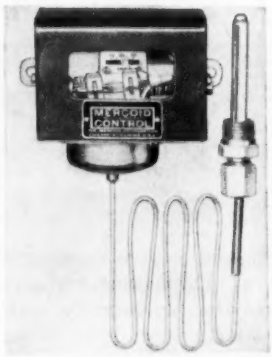
For more details circle NED-366 K1 on enclosed inquiry slip

MITER CLAMP hinged screw clamps adjust to angle

Two triangular-framed screw clamps hinged to swivel in relation to each other around a common center comprise this versatile Mitre-Master miter clamp. Pieces held securely in the vises can be brought into contact with each other at any desired angle for machining, fastening, welding, gluing, soldering, or nailing. Pivotal dial is calibrated in 15-degree units, and the clamps hold any angle to 180 degrees. Removal of pivot bolt allows separate use of each clamp. Singly or together, the device can also be used as a drill press vise, or for machine setups. Tool is made from aluminum alloy. • **Abernathy Vise & Tool Co.**, 132 W. Home Ave., Villa Park, Ill.

For more details circle NED-367 K1 on enclosed inquiry slip

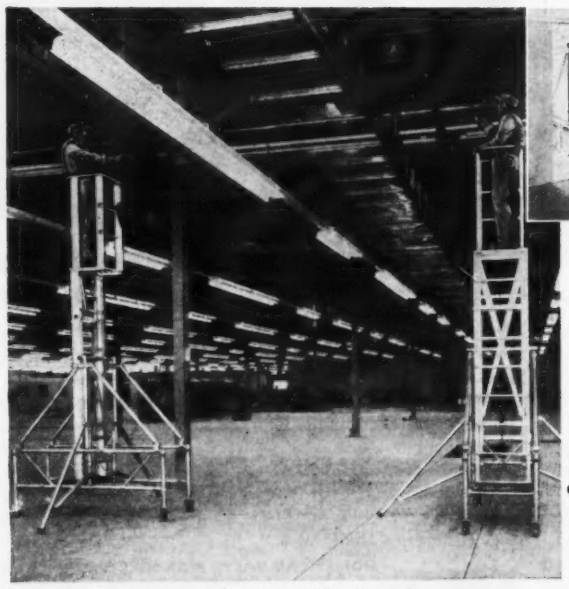
SMALL TEMPERATURE CONTROL has 15 to 55° F range



Compact 4⅛ x 4 7/16 x 2⅞-in. Type AT-153 temperature control is suitable for mounting where space is limited, or for mounting on wiring channels. It is used in air conditioning, freeze protection, refrigeration, and various industrial applications and has an adjustable operating range of 15 to 55° F. Unit features external adjustment, repetitive trip point, visible calibrated dial with pointer, and visible on/off hermetically sealed mercury contact. It is control rated 4 amp at 115 v, 2 amp at 230 v ac or dc. Single-pole, cut in high (close on rise); single-pole, cut in low (open on rise); or single-pole double-throw operation is available. • **Mercoid Corp.**, 4201 Belmont Ave., Chicago 41, Ill.

For more details circle NED-368 K1 on enclosed inquiry slip

20% labor savings on overhead installations with TALLESCOPE... telescoping aluminum scaffold



Western Electric Company plant, Kansas City, Missouri.

In overhead work on heating and ventilating systems, six Tallescope aluminum scaffolds saved 20% on total installation time. Units fold down to pass through doorways and under low ceilings, saving repeated assembly and disassembly of conventional scaffolds. Western Electric Company plant, Kansas City, Missouri. On all overhead maintenance, Tallescope gets men up in the air fast; lets them finish the job fast! Extends instantly for reaching heights up to 31 feet. Lightweight and quickly assembled without tools or loose parts.

Write for TALLESCOPE *circular*

UP-RIGHT SCAFFOLDS
DEPT. 145, 1013 PARDEE, BERKELEY, CALIFORNIA
In Canada: Up-Right Scaffolds, Ltd., 120 Russett St., Oshawa, Ontario

For more details circle NED-365 K1 on enclosed inquiry slip

WEAR RESISTANT THOMSON

AVOID the HIGH COST and difficulty of fabricating long, hard & straight parts by conventional methods...

60 Case hardened and ground

SHAFTS, ROLLS, GUIDE RODS and other long-round parts ELIMINATE WEAR and REDUCE COST

ADVANTAGES of 60 Case

- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.

Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished *60 Case* parts frequently cost less than the scrap losses that result from conventional methods.

Stocked in ¼" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

TYPICAL 60 Case PARTS

GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

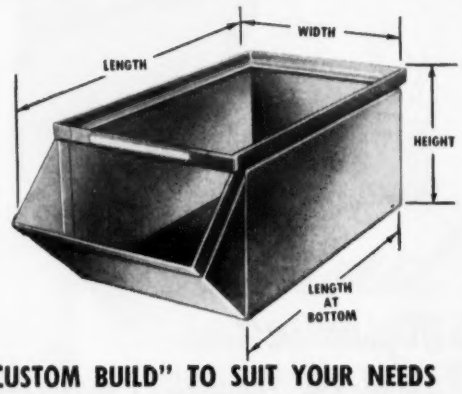
For emergency needs call collect MAnhasset 7-1800

THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C...increase life...reduce cost!

For more details circle NED-369 K1 on enclosed inquiry slip

LOW COST, VERSATILE STACKBINS CUT HANDLING AND STORAGE COSTS



"CUSTOM BUILD" TO SUIT YOUR NEEDS WITH MULTI-PURPOSE STACKBINS

In processing . . .

portable Stackbins carry common parts and supplies to points of usage without time-wasting transferal to other containers.

In storage . . .

Stackbins stack securely to any desired height, with or without Stackracks. Floor space requirements reduced—stock capacity increased.

In assembly . . .

Stackbin flexibility permits adapting assembly station to production requirements.

Available in sizes to suit your requirements

Bin No.	Width	Length	Bottom Length	Height	Weight (lbs.)
00	3½"	6"	4"	3¾"	1¼
0	4½"	8"	6"	4½"	1¾
1	5½"	12"	10"	4½"	3
2	7½"	15½"	12¼"	6"	5½
3	9"	18¾"	14¾"	7½"	9
4	12"	20½"	15¾"	9½"	14
5	15"	24"	18¼"	11"	20½
6	18"	30"	24"	12"	29

COMPARE THE PRODUCT

COMPARE THE PRICE

STACKBINS ARE MADE of heavy gauge steel, all-welded construction with positive stacking rim. Full flow hopper front and smooth interior make contents always visible—always accessible.

All Stackbin products are sold direct. Write for more information today!

STACKBIN CORP. 1081 Main St., Pawtucket, R. I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Perth

STACKBIN SYSTEM
"Stacked and Still Accessible"

For more details circle NED-370 K1 on enclosed inquiry slip

they're safe with **SETKO NU-CUP*** set screws on the job!

Whether it's supporting children on monkey bars or harnessing a spinning shaft you'll find NU-CUP set screws dig in deeper and hold tighter. The shaft illustrated here tells the story.

NU-CUP has a 42% sharper point which penetrates in a deep, full circle giving tremendous holding power. In some cases it actually reduces the number of set screws needed for the job. You can get them in slabbed, slotted, hex or fluted socket.

SEND FOR FREE TEST SAMPLES and full information. Ask about NU-CUP set screws.

SETKO Set Screw & Mfg. Co. *U.S. Pat. No. 2,778,265 130 Main St. Bartlett, Ill. 574R

▲ For more details circle NED-371 K1 on enclosed inquiry slip ▲

UNIVERSAL
SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

- ★ 180 "O" Rings in Each Kit—Sizes 1 to 25.
- ★ Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
- ★ Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
- ★ Buy Replacement Back-up Washers in these "O" Ring Sizes.

TEFLON	$115.95
BUTYL RUBBER	$ 47.95
STANDARD COMMERCIAL (Buna N)	$ 24.50
STANDARD SILICONE RUBBER	$ 66.90
VIM LEATHER BACK-UP WASHERS	$ 28.75
SELECT-O-RING KITS IN VITON	$124.50
AN 6227 SERIES	$ 59.50

RETAINING RING
ECON-O-KIT

400 Truarc Cadmium Plated Rings —84 Sizes—70% of Ring Sizes Used in Industry

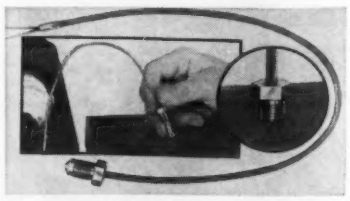
Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from ¼ to 2½ inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio

▲ For more details circle NED-372 K1 on enclosed inquiry slip ▲

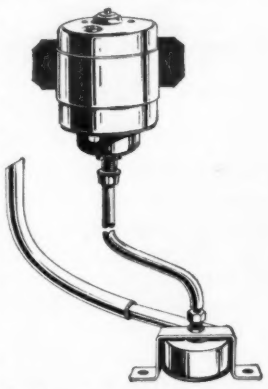
THERMOCOUPLE
cable offered in any length



Small size which holds heat dissipation to a minimum and accuracy often limited only by that of the recording instruments are features of Monitemp Mark III thermocouple cable. A stainless steel retaining nut is free from the thermocouple, permitting installation and disassembly without twisting the stainless steel braided cable. Any length may be ordered in chromel-alumel or iron-constantan types. • **Advanced Products Co.**, 59 Broadway, North Haven, Conn.

▲ For more details circle NED-373 K1 on enclosed inquiry slip ▲

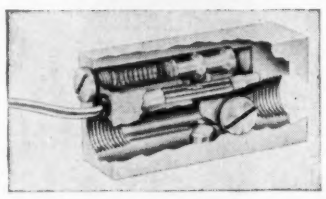
MOTORIZED PUMP
high speed unit has flexible shaft



Unaffected by wear and free from clogging by sand or grit in the liquid being handled, the Heliflex pump operates at high speed to offset the loose fit of impeller against pump walls. It is equipped with a 6 or 12-v dc or 110/220-v ac 1/50-hp motor and has a maximum head of 14 ft. Capacity is 500 gph at 3500 rpm. Pump and motor are connected by a permanently lubricated flexible shaft, available in 24, 40, and 65-in. and other lengths. • **Hughes Auto Electric Co.**, Heliflex Pump Div., 13-15 Van Brunt St., Englewood, N. J.

▲ For more details circle NED-374 K1 on enclosed inquiry slip ▲

FLOW SWITCH
adjustable unit for fluids, gases



Model FS-10798 flow switch may be used to operate a remotely located warning light or other visual or audible indicator. When used in conjunction with a flow meter, it can be adjusted to give warning or control at a predetermined flow. Displacement of a magnet-equipped shuttle actuates the hermetically sealed contacts. Switch can be set for a continuous range of actuation from 0.1 to 10 gpm for fluids and 0.5 to 30 cfm for gases. It has ½-in. NPT in-line ports and standard housings of brass or stainless steel. Aluminum, plastic, or other nonmagnetic materials can be furnished. • **Gems Co.**, Sheppard Lane, Farmington, Conn.

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OF PRESSURE AND DIFFERENTIAL PRESSURE

DELTADYNE® SWITCHES
Pat. No. 2,942,572
Adjustable for signalling pressure and differential pressure from 0.25" wc to 200 psi (or psid) in systems to 5000 psi and −65° to +275°F; leak-proof. Units sound alarm, light bulb, turn motor on or off, operate valves—remotely or in place. **$40 to $75**

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For system pressures to 3000 psi; indication from 0 to 60 psi differential; leak-proof—no moving seals; high-visibility scale. **$92**

Extended pressure and temperature ranges available in all instruments.

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OFF-THE-SHELF OR CUSTOM-ENGINEERED FOR

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- Process industries (chemical, petroleum, fuels)
- Equipment manufacturers (fluid handling)

Read or control tank levels, and pressure drops across filters, heat exchange orifices for flow metering, gas adsorbers and many other types of equipment. Learn more about the cost and service advantages of these units.

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PALL CORPORATION • GLEN COVE, N. Y.

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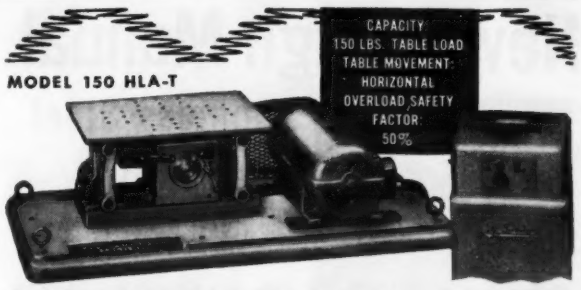

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For pilot, spot or production line testing of electronic, electrical, optical and mechanical equipment. By simulating most extreme conditions of service, hidden defects are easily located. Horizontal table movement. Electronically controlled acceleration and deceleration. Operates on selected cycle ranges or through full frequency band of 5 to 100 c.p.s.

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Builders of ALL AMERICAN Precision Die Filing Machines
8044 Lawndale Ave., Skokie, Illinois

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Here's a handy, 24-page guidebook to help you plan the best possible general and local ventilation for your plant. Shows countless installations for all types of industries. Explains how best to exhaust heat and steam, smoke and fumes; how to filter air supply; how to screen out flies. Also tells proper location and size of propeller and centrifugal fans and roof ventilators to use under all operating conditions; how to calculate duct design. For your free copy, WRITE FOR BULLETIN 1522.

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ILG ELECTRIC VENTILATING CO.
2806 N. Pulaski Road, Chicago 41, Ill.
Offices in 60 Principal Cities
Member of Air Moving and Conditioning Association, Inc. (AMCA)

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. . . for almost any fluid in the world!

No corrosion problem with Homestead's new Ball Valves, thanks to the right combinations of seals and metals. No leakage problem, because Homestead's self-adjusting ball and flexible seal stop flow in either direction. Adjustable packing gland prevents leakage to the outside of valve, too. In either bar-stock or slip-out design, you like Homestead Ball Valves quarter-turn operation; choice of full round pipe-sized passage or restricted area, and flow indicator that stays on when handle is removed. Write for free catalog. Reference Book 39-5.

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"Serving Since 1892"
P.O. Box 84—Coraopolis, Pennsylvania
Makers of Homestead Ball Valves, Cam-Seald, Lever-Seald, and Lubricated Plug Valves

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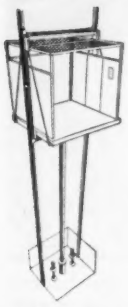


Using dependable hydraulic power, Rotary Oildraulic Elevators operate with maximum efficiency. Power is applied directly to the load . . . no lost motion or wasted energy. The elevator car is supported by a powerful hydraulic jack, eliminating the need for heavy load-bearing shaftway and overhead machinery. Capacities to 100,000 lbs. Installed and serviced by a nationwide organization. Write for catalogs.

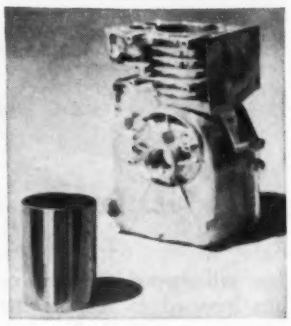
ROTARY OILDRAULIC® ELEVATORS

Rotary

Rotary Lift Company
Division of Dover Corporation
1029 KENTUCKY • MEMPHIS 2, TENN.

For more details circle NED-380 K1 on enclosed inquiry slip

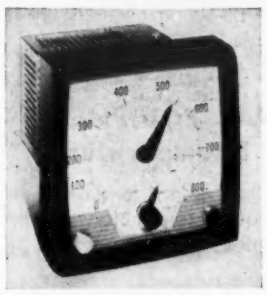
CYLINDER LINER
of powder metal for small engines



Longer engine life, reduced ring wear, and reduction of oil consumption by two-thirds are achieved in small two and four-cylinder engines with Oilite powder metal cylinder liners. Made of the new Oilite alloy W-982, liners require only honing in most cases and bond into place by infiltration of the aluminum cylinder wall into the wall of the liner. • **Chrysler Corp.**, Amplex Div., Box 2718, Detroit 31, Mich.

For more details circle NED-383 K1 on enclosed inquiry slip

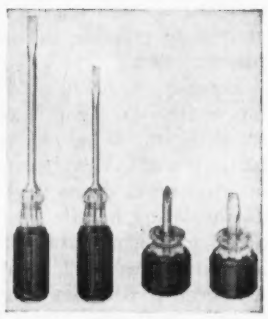
TEMPERATURE CONTROLLER
indicating dial is servo-controlled



Front-panel control setting and an easy-to-read servo-controlled indicating dial are features of this series of indicating temperature controllers. Maintenance is simplified by use of circuit plug-ins, epoxy encapsulated to withstand moisture, dust, vibration, and environmental changes. The 6000-A Series uses a Wheatstone bridge circuit with a choice of four control models. Temperature ranges from −300 to 2000° F are available. Instrument is offered as indicator only, indicator for multiple point use, and indicator for multichannel control use. The servo indication system is offered with up to five remote location controls. Price range is $185 to $250. • **Electronic Processing Corp.**, 436 Bryant St., San Francisco 7, Calif.

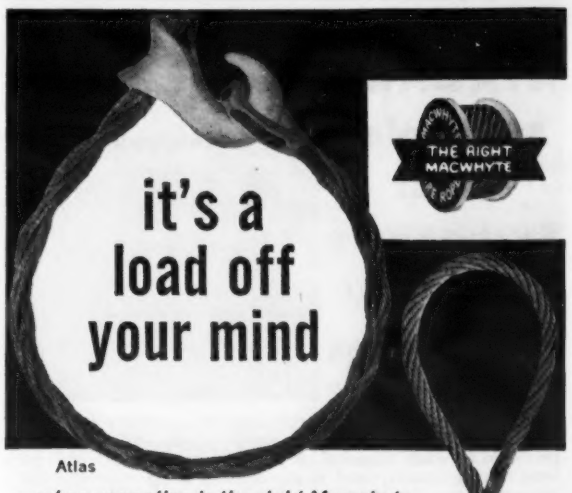
For more details circle NED-384 K1 on enclosed inquiry slip

SCREWDRIVERS
have comfortable nonslip handles

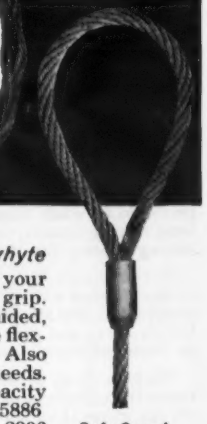


Designed for use by electricians and mechanics, Cushion Grip screwdrivers have blisterproof, oil and water resistant, nonslip Nitrile rubber grips for ample turning power. The 4 and 6-in. tools have a heavy ¼-in. diameter shaft with a cabinet point. Also available are a 1¼-in. regular stubby and a 1¼-in. stubby with a Phillips point. The interlocked handle cannot loosen nor come off. • **Bridgeport Hardware Mfg. Co.**, Scofield Avenue, Bridgeport 5, Conn.

For more details circle NED-385 K1 on enclosed inquiry slip



Atlas



Safe-Guard

—when your sling is the right Macwhyte

There are Macwhyte slings for all your load-handling — for a safe, sure grip. Atlas round-braided, Drew flat-braided, and Safe-Guard cable-laid slings are flexible, lightweight, kink-resistant. Also slings designed for your special needs. For complete information and capacity tables, ask for Bulletins 5308-R and 5886 Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

254

MACWHYTE

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These famous shafts mean easier roll handling, faster, at lower cost!

Tidland
PNEUMATIC SHAFTS
for all roll winding, and unwind equipment

Light, strong, easy-to-use for fast set-ups. Positive uniform, non-slip grip. No damage to cores or material. Collapsible, instant release! A complete line, custom-fitted to any need, any length, any diameter, for any size rolls.

LEAF-TYPE LUG-TYPE AND SPECIAL SHAFTS FOR: PAPER, PAPERBOARD, PLASTIC FILMS, METALS, FOILS, LAMINATES, TEXTILES, RUBBER

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for the asking...

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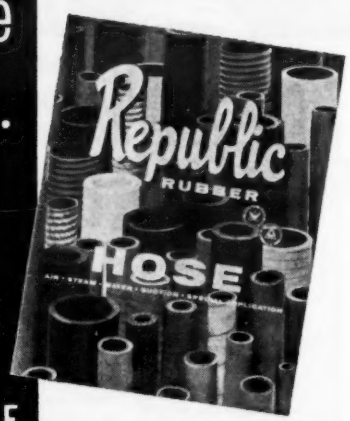

36 pages of useful information on RUBBER HOSE *all kinds... all sizes!*

Includes the many different kinds of hose for air, steam, water, suction; data on couplings and how to apply them; reference tables; do's and don'ts for longer service life.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1 OHIO
INDUSTRIAL RUBBER PRODUCTS

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DAY Pneumatic Conveying and Bulk Storage News

FREE! 2 valuable guides for selecting PNEUMATIC CONVEYING and BULK STORAGE TANKS

Whatever your pneumatic conveying or bulk storage problem, look first in these DAY bulletins. They are valuable aids in selecting and ordering the right equipment for your plant. For your free copies use reader service card of this magazine or write direct toDAY.

BULLETIN M-588—12 page DAY pneumatic conveying guide just off the press. Discusses types of systems, illustrates and diagrams high and low density arrangements, shows equipment and tells "why" and "wherefore" of all types of pneumatic conveying including so-called fluidizing systems.

BULLETIN 574—12 pages, describes horizontal and vertical storage tanks. Points out savings and is filled with photos of various installations plus description of auxiliary equipment.

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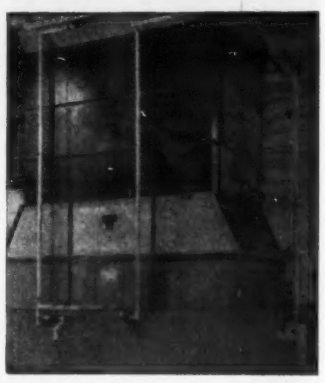
EQUIPMENT ONLY OR A COMPLETE SYSTEM

For more details circle NED-382 K1 on enclosed inquiry slip

NIAGARA Air-Cooled Heat Exchangers Bring You Extra Savings



Your Niagara Aero® Heat Exchanger sets you free from dependence on a costly cooling water supply and solves the problem of water disposal. It pays for itself quickly and its long-lasting quality and dependability keep it constantly saving money for you and adding to your profit.

This Niagara design also saves you much labor and money in installation and upkeep. Its cleanable coils are easily accessible, as are all interior parts. Its panels are removable for cleaning and painting. It is easy and inexpensive to keep in "new machine" condition.

Niagara Aero Heat Exchangers have been making good records as revenue producers and cost savers for their owners for more than thirty years. Use them wherever you need to cool a liquid or a gas in industry.

Write for Bulletins 120 and 132.

NIAGARA BLOWER COMPANY
Dept. ED-10 405 Lexington Ave., New York 17, N. Y.
Niagara District Engineers in Principal Cities of U. S. and Canada

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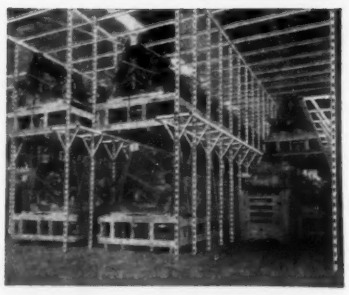
WHY

do more than 4,000 plants use

American

adjustable STORAGE RACKS



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Stronger Construction

Specially roll-formed Posts are extra heavy gage steel . . . sturdy Stringers are one-piece continuous welded steel tubing . . . Upright Frames are cross-braced against sway . . . Turnbuckles "level out" uneven floors.

Quicker Assembly

No special tools required . . . no welding or costly bolting . . . all parts scientifically engineered to hook easily and securely into place.

Easier Adjustability

Stringers work independently of any other part . . . they raise and lower like a window, on 4" centers . . . make rigid connection when "locked" to post.

Greater Efficiency

American Racks use every inch of storage space . . . they save you time, labor and money from the very start of installation . . . provide industry's highest safety factor for utmost protection.

There's an American Rack for every storage need

Send for Catalog!

AMERICAN METAL PRODUCTS CO.
STORAGE RACK DIVISION
5977 Linsdale Ave. amp® Detroit 4, Michigan

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario

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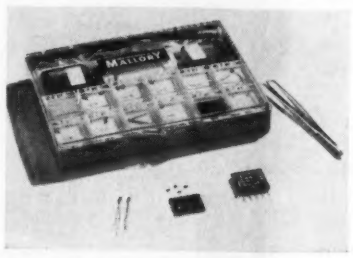
FLIP-FLOP CIRCUIT KITS for building 10-kc systems

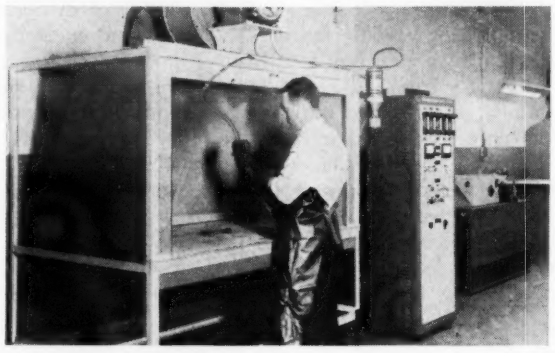


Sample microcomponents needed to build a 10-kc flip-flop having set and reset capabilities and occupying a volume of 0.179 cu in. are provided by No. 6928-KA Microkit. Included are leadless pill-shaped resistors, capacitors, and diodes which are inserted in a prepunched wiring board. Microtransistors, terminals, and conductive cement interconnections are added, after which the complete flip-flop can be tested and encapsulated with epoxy, also supplied in the kit. Kit A sells for $44.95. Kit 6928-KB which sells for $139.95 contains all A kit items plus additional microcomponents, and base materials to fabricate various circuits, including flip-flops, amplifiers, multivibrators, bridge circuits, and gates. • **P. R. Mallory & Co.**, 3029 E. Washington St., Indianapolis 6, Ind.

▲ For more details circle **NED-390 K1** on enclosed inquiry slip ▲

PLASMA TORCH—SPRAY EQUIPMENT capable of 30,000° F temperatures

Temperatures in excess of 30,000° F are generated in this plasma torch and spray equipment which can be used to spray tungsten, ceramics, cermets, metals, or



any meltable material. Since temperatures are generated in a moving stream of inert gas, atmosphere control is possible in the zone being heated by the plasma torch.

Equipment requires 220/440 v ac power, ordinary tap water, and compressed inert gases to function. The small, light, 40-kw plasma torch, when fitted with extension leads, can be used for spraying coatings on internal bores down to 4 in. It is also furnished with an insulating handle for hand-held operations. In addition to plasma spray coating, equipment can be used in cutting, welding, heat treating, missile testing, or wherever a compact source of very high heat is required. • **Precise Metal Products Corp.**, 262-278 44th St., Brooklyn 32, N. Y.

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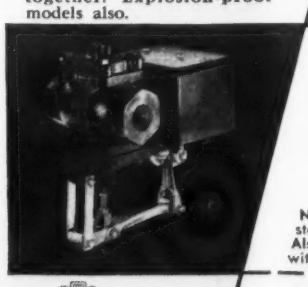
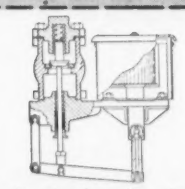
BIG LINE-UP BIG PERFORMANCE

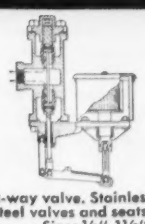
Johnson Solenoid Valves are built for heavy duty service . . . handling, air, water, steam, heavy viscous liquids. No pilots or pistons; powerful leverage design opens smaller valves against 250 lbs. Because of the remoteness of the solenoid, temperatures up to 400° F. are easily handled without adverse effect on the solenoid coil. Bodies are bolted together. Explosion-proof models also.

JOHNSON Direct Operated SOLENOID VALVES

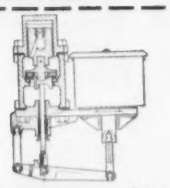




Normally closed service, stainless steel valve and seat. Sizes 3/8"-3". Also for normally open service, and with Jenkins Disc.



3-way valve. Stainless steel valves and seats. Sizes 1/2"-1 1/2".



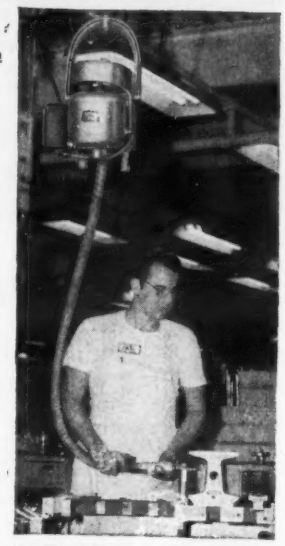
Dashpot construction, cushions closing to avoid water hammer. Jenkins Disc. Sizes 3/4"-2".

Write for Bulletin "V"

THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Mich.

▲ For more details circle **NED-392 K1** on enclosed inquiry slip ▲

suspension type FLEXIBLE SHAFT MACHINE eliminates tooling problem for I.B.M.



International Business Machines Corporation had the problem of reaming holes .813" in diameter in the mounting hanger on the main base of their 407 Accounting Machine. To eliminate expensive tooling for this operation, they selected a STOW V50 portable flexible shaft machine, specially fitted with an on-off switch mounted on the handpiece.

The V50 machine delivers 1150, 2100, 3450 or 5750 RPM, is furnished with a 6-foot flexible shaft. Other speeds can be achieved by using different size pulleys. (I. B. M. ran the reamer at 750 RPM.) Available in either 3/4, 1, 1 1/2, or 3 HP, the V50 can be used for grinding, buffing, sanding, wire brushing and drilling. **Stow Manufacturing Co.**, 26 Shear Street • Binghamton, New York. *Advt.*

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NEW! *King* COMPRESSED AIR FILTERS

Remove ALL Harmful Traces of Dirt, Water and Oil — *Go Months Without Maintenance!*

HERE'S HOW:

1 WET SCRUBBER CARTRIDGE causes mist and fog to form large drops that fall into sump. Takes out dirt, water and oil down to less than 2 microns. Self-cleaning; has almost unlimited service life.

2 DRY POLISHER CARTRIDGE gives the final touch; leaves the air extra-clean. Scrubber does nearly all the work, so Polisher also has almost unlimited service life.

60 MODELS — FOR EVERY SERVICE
20 to 200 scfm — 1/4" to 2" NPT

Get ALL the facts! Write today for free KING FILTER CATALOG.

KING ENGINEERING CORP.
3223 S. State St. Ann Arbor, Mich.
LIQUID LEVEL GAGES, MANOMETERS, ACCESSORIES—SINCE 1937

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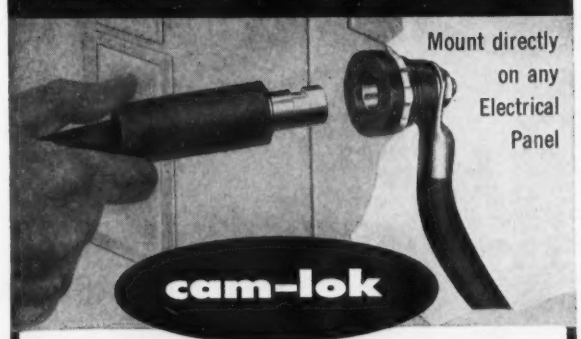
New Hi-Impact Plastic Insulated **Panel Receptacles and Mating Plugs**



Cam-Lok self-insulated Receptacles mount with standard electrical lock-nuts on *any* metal panel, *without* costly, special insulation. Affords "dead front" protection and positive full-power connections. Plugs lock tight, release quickly. Eliminates special insulated panels on your products and reduces assembly time.

Write today for new Bulletin #301 on the complete line.

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EMPIRE PRODUCTS, INC.
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Cincinnati 42, Ohio

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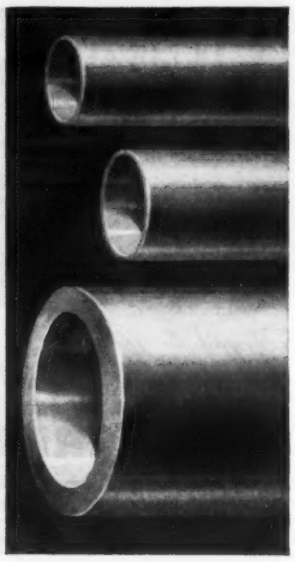
Looking for Commercial Copper and Copper Alloy Tube?



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DIVISION OF
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DEPT. R, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

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DIVISION OF
Calumet & Hecla, Inc.
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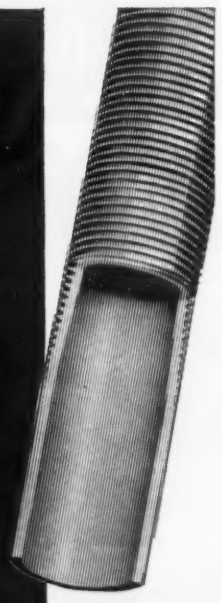
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-397 K1 on enclosed inquiry slip

NEED HELP ON HEAT TRANSFER?



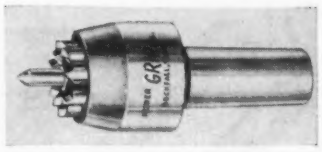
Call for a Wolverine Heat Transfer Specialist to discuss Wolverine Trufin®, the integral finned tube for increased heat transfer!

Wolverine Trufin is available in Canada through the Unifin Tube Division, London, Ontario.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. R, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-398 K1 on enclosed inquiry slip

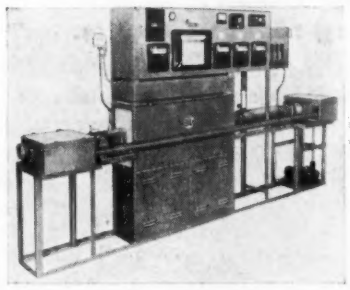
SPECIAL DRIVING CENTER
holds tubular work for OD grinding



Tubular workpieces which must be machined from end to end without interference of outside holding devices can be held by this special driving center. It has a long piloted center point to position work. The workpiece stays in position until the tailstock moves in and driving points engage. A heavy turning or grinding cut can be taken from end to end because drive pins grip work near its maximum outside diameter. • **PowerGrip, Inc.**, Rockfall, Conn.

For more details circle NED-399 K1 on enclosed inquiry slip

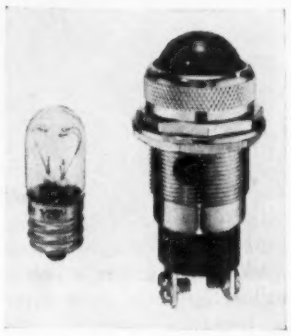
SOLDERING FURNACE
for continuous production work



Uniform fluxless soldering is preformed on an automatic production basis by this TSH horizontal Transheat soldering furnace. It provides for single-station loading and unloading through a continuous closed-loop chain drive with boats on which parts or preload fixtures are placed. Soldering in the gas-fired furnace area is under controlled temperatures up to 600° C. Hydrogen atmosphere eliminates the need for flux and produces a clean, oxide-free bond for the work using solder preforms. • **BTU Engineering Corp.**, 179 Bear Hill Rd., Waltham 54, Mass.

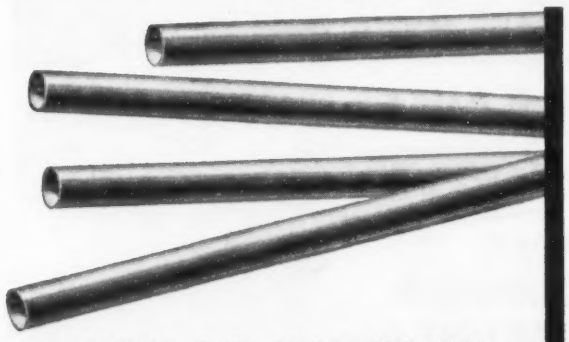
For more details circle NED-400 K1 on enclosed inquiry slip

SMALL INCANDESCENT LAMP
6-w bulb only 7/16 in. long



Only 7/16 in. long, including screw base, this ½-in. diameter 6-w incandescent lamp makes possible further miniaturization of pilot light assemblies. For sturdiness, two separate 3-w coiled tungsten filaments are connected in series and each has its own mount. Lamp produces 36 lumens of light which is spread by the filament design for effective use of color lenses. It is rated 125 v and averages 1500 hr of service. Price is 95 cents. Photo shows the new lamp with a typical pilot light assembly with which it is used. • **General Electric Co.**, Large Lamp Dept., Nela Park, Cleveland 12, Ohio.

For more details circle NED-401 K1 on enclosed inquiry slip



LOOKING FOR INFORMATION ON ALUMINUM TUBE?

WRITE FOR

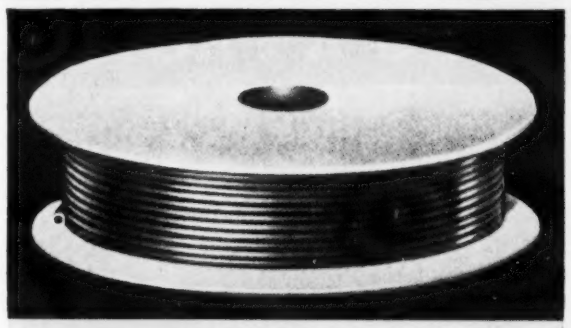
WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. R, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-402 K1 on enclosed inquiry slip

For "Quality Controlled" CONTROL TUBE

WRITE
WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. R, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-403 K1 on enclosed inquiry slip



PACKAGED FOR PRODUCTION LINE REQUIREMENTS

• Wolverine Copper Tube in Long Length Level Wound Coils on a Reel

WRITE
WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. R, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-404 K1 on enclosed inquiry slip

FOR TUBING INFORMATION
Write for Wolverine Literature

- ☐ THE MEASURE OF TUBEMANSHIP
- ☐ WOLVERINE SERVES THE REFRIGERATION INDUSTRY
- ☐ STATEMENT OF SCOPE
- ☐ TOMORROW'S METALS TODAY
- ☐ CAPILATOR® BROCHURE
- ☐ COMMERCIAL TUBE CATALOG
- ☐ WOLVERINE ALUMINUM CATALOG

Write on your letterhead for literature listed.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. R, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

For more details circle NED-405 K1 on enclosed inquiry slip

SKINNER 3-WAY SOLENOID VALVES SOLVE YOUR CONTROL SYSTEM PROBLEMS

Whatever your problem in controls . . . in machine tool automation, automatic clutching or braking, packaging, instrumentation, laundry equipment, air conditioning, or in any of thousands of applications involving air and hydraulic cylinders or pressurized mechanisms . . . Skinner has the answers.

Skinner design leadership and quality manufacture of solenoid valves has been proved by universally successful use. And as control problems become more complex, Skinner keeps pace with new designs, new valves, and continued top quality production.

When you specify solenoid valves, specify Skinner. All Skinner solenoid valves are distributed nationally. For complete information, contact a Skinner Representative listed in the Yellow Pages or write us at Dept. 430

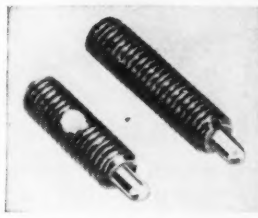
SKINNER ELECTRIC VALVES

THE CREST OF QUALITY

SKINNER ELECTRIC VALVE DIVISION, THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT

For more details circle NED-406 K1 on enclosed inquiry slip

SPRING PLUNGERS
for use in jigs and fixtures



Used in positioning parts in jigs and fixtures, these spring plungers have noncrystallizing compounded springs. When compressed, spring allows plunger to recede entirely into the threaded body. A preset, locked-in set screw backs up the spring. Hardened steel plunger tips will not "mushroom," even under constant use and can be ground to specification. A silver-nose (cadmium plated) model for lighter end pressure is available as well as regular heavy-duty type. Ten sizes range from 6/32 to 1 in. • **Jergens Tool Specialty Co.**, 712 E. 163rd St., Cleveland 10, Ohio.

For more details circle NED-408 K1 on enclosed inquiry slip

SAFETY HOISTING HOOK
used on cables, ropes up to 1 in.

Safe hoisting of buckets and other equipment is realized with the Fitrite safety hook. Made of ½-in. steel rod, it has a gravity operated sleeve which automatically drops into position to keep the item being lifted securely fastened during hoisting. Attaching and releasing is rapid and easy. Hook can be used on ropes or cables with diameters up to 1 in. • **David Levow, Inc.**, 9 Georgia St., South Hackensack, N. J.

For more details circle NED-409 K1 on enclosed inquiry slip

HERBICIDE SPRAY UNIT
gasoline engine powers hand spray

Spray distance of 50 ft combined with the nondrift characteristic of the mayonnaise-like invert herbicide spray suit this portable spray unit for treating various

brush and weed ridden areas. The hand model weighs about 100 lb and can be transported and operated from a pick-up truck. It is powered by a 7½-hp air-cooled gasoline engine. Feed lines to a drum of water and the herbicide container are connected to the Stull nozzle where they are mixed. Solution is a mixture of water, nonaromatic oil, and herbicide, plus a surface active agent, emulsifier, and sticking agent. • **Stull Chemical Co.**, 3400 Nacogdoches Rd., San Antonio, Tex.

For more details circle NED-410 K1 on enclosed inquiry slip

IT'S A FACT!

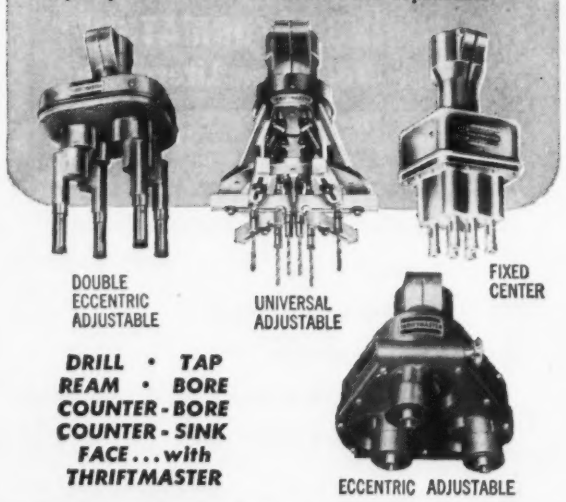
DRILLHEADS
ARE OBVIOUS.

. . . Tremendous economies from the use of multiple-spindle drillheads are obvious. Drilling one hole at a time cannot be tolerated in this day of automation!

THOMSON
THRIFTMASTER DRILLHEADS
. . . are your best Drillhead buy . . .

1. They are better built and cost no more (Full ball bearing construction, hardened gears, spindles and driver, and precision grinding!)
2. This means they last longer
3. This eliminates down time
4. This eliminates production losses
5. This drastically reduces drilling costs

THOMSON
THRIFTMASTER DRILLHEADS
. . . are designed and produced by engineers whose experience **in this specific field** dates back to 1923. This long accumulation of engineering technique and production "know-how" is reflected in our product—**a quality tool . . . solid, substantial and dependable!**



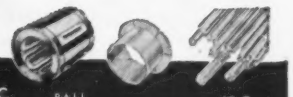
**DRILL • TAP
REAM • BORE
COUNTER-BORE
COUNTER-SINK
FACE . . . with
THRIFTMASTER**

Ask NOW for our new catalog!

THRIFTMASTER PRODUCTS CORPORATION

1028 NORTH PLUM STREET
LANCASTER, PENNSYLVANIA
Phone EXpress 2-2101

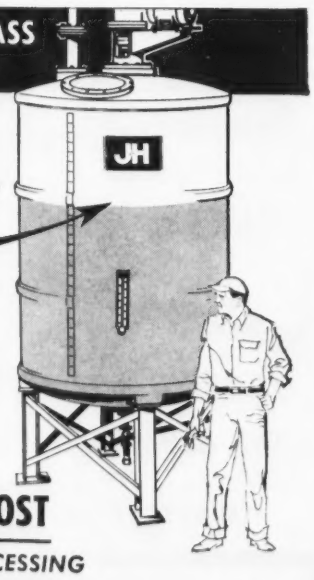
Also Makers of DORMAN TAPPERS



Subsidiary of THOMSON INDUSTRIES, INC. makers of BALL BUSHINGS NYLINERS 60 Case Shafting

For more details circle NED-407 K1 on enclosed inquiry slip

J&H FIBERGLASS PLASTIC TANKS



**MORE-
CORROSION
RESISTANT than
stainless steel**

**LESS-
than HALF the COST**

for STORAGE & PROCESSING

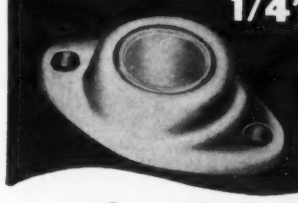
50 to 70,000 gallon J&H Fiberglass Plastic Tanks are self-supporting. Resist nearly every conceivable chemical. Are glass smooth inside. Require no painting outside. Translucent walls prove flawless construction; permit visual monitoring of liquid level. Eight standard diameters, from 24 inches to 24 feet in nearly unlimited height or length, are mass produced for immediate delivery. Outlets placed to your requirements. Write for brochure and price list.

Also PIPING TUBING & CUSTOM FABRICATION

JONES & HUNT INC. 104 Emerson Ave., Gloucester, Mass.

For more details circle NED-411 K1 on enclosed inquiry slip

Miniature Sizes
1/4" to 2" O. D.



✓ Self-Aligning
✓ Self-Lubricating

Lube-Align® BEARINGS

The new "LUBE-ALIGN" Bearing combines a self-lubricating oil-impregnated spherical bronze bearing permanently nested in an aluminum die cast housing. The bearing is self-aligning. No oil cups or grease fittings are necessary. Unique design provides total contact support for the spherical bronze bearing and makes it possible to use miniature size units with smaller O.D. shafting to carry increased loads. A wide range of sizes is available with special sizes and styles upon request.

Write for complete catalog and price list!

BBI REG U S PAT OFF

**BRONZE BEARINGS, INC.
3553 West Addison Street
Chicago 18, Illinois
Telephone JUniper 3-1106**

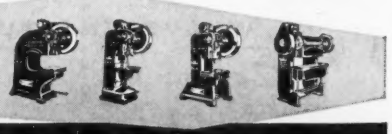
Representative and Dealer inquiries invited.

For more details circle NED-412 K1 on enclosed inquiry slip

High Output with ROUSSELLE
DOUBLE-CRANK PRESSES

SPEED UP PRODUCTION with these versatile 40-ton presses. Large bed and ram areas make them ideally suited to handle wide rolls or sheets . . . do multiple punching, steel-rule die work and other high output operations. For rapid shockless starting and stopping, presses can be equipped with electrically controlled "Econo-Air" friction clutch . . . Ask for new catalog.

Choice of over 30 models and types in 5 to 60-ton sizes

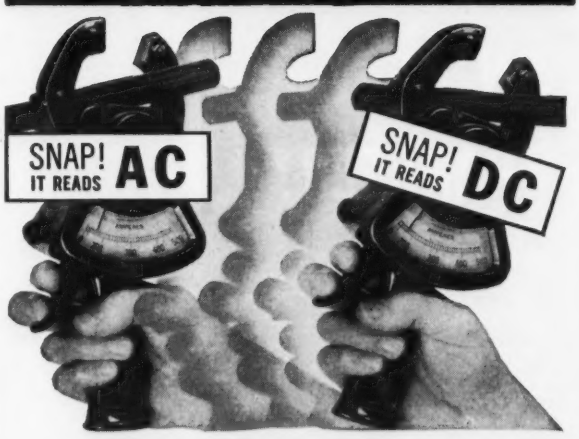


SERVICE MACHINE CO.
Mfrs. of Rousselle Presses
2310 WEST 78TH ST. • CHICAGO 20, ILL.

Rousselle Presses are sold exclusively through Leading Machinery Dealers.

For more details circle NED-413 K1 on enclosed inquiry slip

Only TONG TEST AMMETER can do THIS



TONG TEST is the only ammeter of its type that measures both alternating and direct current. Snap tongs around electrical conductor, get **instant readings,** without shutting down equipment.

Use AC-DC TONG TESTERS for balancing loads, controlling welding current, checking for motor overloads, etc. Interchangeable ranges up to 1000 amperes, impossible to read wrong scale. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½". *Write for Catalog ND-400*

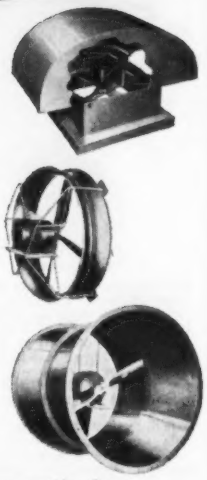
COLUMBIA

**COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO**

For more details circle NED-414 K1 on enclosed inquiry slip

Intake One Minute, Exhaust the Next— with the same fan

HARTZELL'S Unique Reversible Fan



- moves air in either direction with equal efficiency — does the work of two fans
- manual or automatic reversible
- sizes from 18" to 44"
- ring or duct-type mounting or special reversible roof ventilator

Write for details on these versatile fans or call your nearby Hartzell field office.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
60 Thomas Blvd., Piqua, Ohio — A member of AMCA

For more details circle NED-415 K1 on enclosed inquiry slip

JACKETED PIPE and FITTINGS

H&B standard jacketed equipment gives complete jacketing of the product line. Special jigs enable H&B to insure uniformity of the jacketed area. Fittings and valves are available in cast or welded construction in all alloys including stainless steel. All H&B jacketed equipment is hydrostatically tested to 450 p.s.i. H&B welded steel jacketed fittings are ideally suited for process piping with pressures reaching 300 p.s.i. and temperatures up to 750°F.

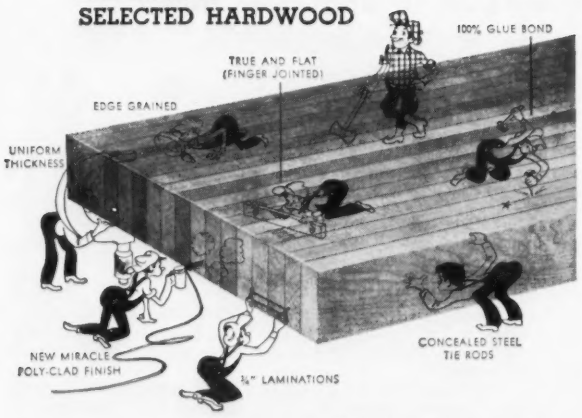
For more information send for bulletin J-57.

HETHERINGTON & BERNER INC.
A Wholly Owned Subsidiary of American Hoist & Derrick Company
701 KENTUCKY AVENUE • INDIANAPOLIS 7, IND.

For more details circle NED-416 K1 on enclosed inquiry slip

BENCH TOPS

LAMINATED SELECTED HARDWOOD

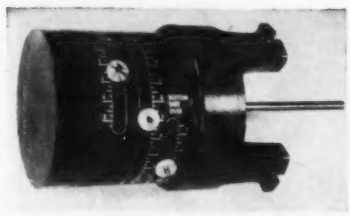


• Tolerton tops are available from 1¼" to 4" thick, in widths and lengths to meet any requirement. Maple or steel base units also available in wide variety of sizes and styles. Write for technical, descriptive brochure.

Established 1894
THE TOLERTON COMPANY
265 N. Freedom Avenue • Alliance, Ohio

For more details circle NED-417 K1 on enclosed inquiry slip

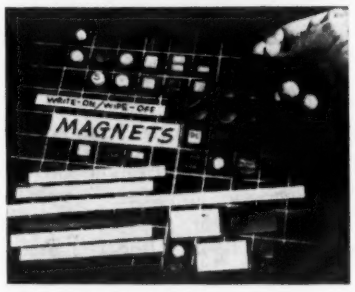
MULTISTAGE CAM SWITCH
offered with one to six cams



This multistage cam switch, available with one to six cams, is designed primarily for equipment where a synchronous pulse or series of pulses is required. Each stage can be adjusted up to 180 degrees from the outside while cams are stationary or in motion. Switches have heavy-duty, ballbearing construction throughout and are offered in either direction of rotation. Cams can be supplied with any degree of dwell. Switches are rated 15 amp at up to 480 v ac and are used in brakes, shears, power presses, lathes, millers, grinders, and printing presses. • **General Automation Corp.**, 121 Centre Ave., Secaucus, N. J.

For more details circle NED-418 K1 on enclosed inquiry slip

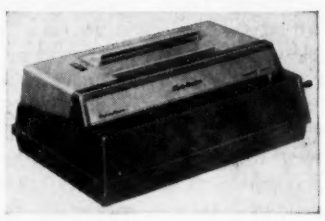
MAGNETIC CHART INDICATORS
in many colors, shapes, and sizes



Magnetic indicators for use in magnetic scheduling and charting are now available in many colors, shapes, and sizes. All items have a write-on/wipe-off surface that allows additional coding with marking pencils. Flexible strip magnets with the same surface can be cut to any length or shape. Special colors and imprints can be ordered, and a magnet selection chart is available. • **Wm. A. Steward Co.**, Rol-a-chart Div., Box 291, Mill Valley, Calif.

For more details circle NED-419 K1 on enclosed inquiry slip

PHOTOCOPYING MACHINE
for anything printed, written, drawn



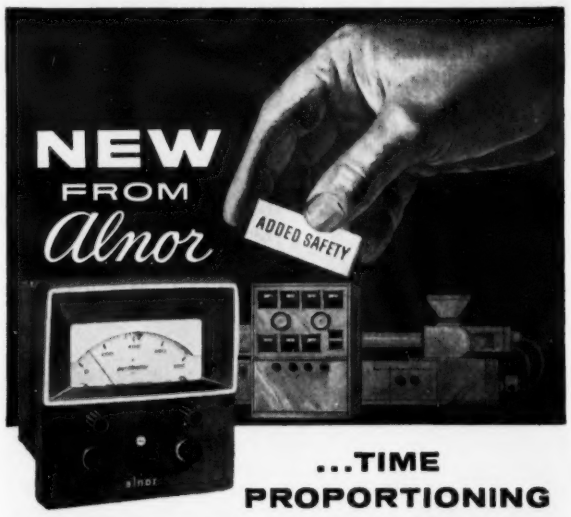
Sharp, clean, black-on-white copies of anything printed, written, drawn, typed, or duplicated are made on this Photo-Master X-200 photocopier. It takes all lengths of any original up to 9 in. wide on any type of paper. Easily carried, it occupies only 12 x 19 in. of desk space. A new pre-mixed developer cartridge is automated by a convenient feed lever. A touch on the lever starts pressure filling of the developer tray, and the developer automatically drains back into the cartridge to retain its freshness. • **Formfoto Mfg. Co.**, 146 Home Ave., Villa Park, Ill.

For more details circle NED-420 K1 on enclosed inquiry slip

A complete line of modern, economical, metering, mixing, and dispensing equipment for one and two-part compounds, foams, adhesives

For more details circle NED-421 K1 on enclosed inquiry slip

For more details circle NED-422 K1 on enclosed inquiry slip



...TIME PROPORTIONING TEMPERATURE CONTROLLER with ADDED SAFETY CIRCUIT

Designed for controlling the temperature for all plastic molding and heat sealing machines, heated dies, ovens and cooking vessels.

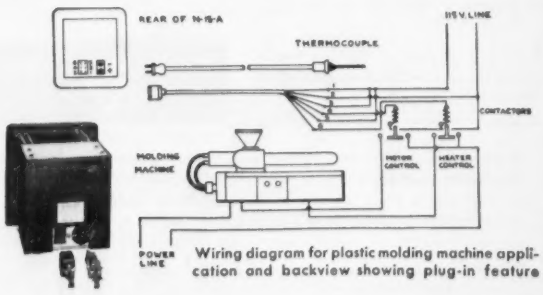
The added safety features of the New Alnor Pyrotroller makes it a distinctive instrument in the temperature control field.

A special circuit prevents starting the production machine before the temperature of the material handled is up to the correct operating temperature. This same circuit will automatically shut down the machine if the heat source fails to keep the material up to the correct operating temperature thus preventing mechanical damage to the machine.

This safety feature is equally valuable on heat sealing machines or cooking vessels to prevent operating at a temperature that would result in a faulty product.

The Pyrotroller operating parts are few in number and of a high order of reliability. Each component is oversize for its required performance to permit operating well below its rated capacity. This engineering philosophy results in a very reliable instrument of long trouble free field life. The extremely rugged construction of the Pyrotroller makes it highly resistant to machine vibration and its unusual accuracy in proportioning the heat supply enables it to maintain the optimum temperature at all times.

Scale ranges 0-400° F to 0-3000° F
Engineering service available on special applications

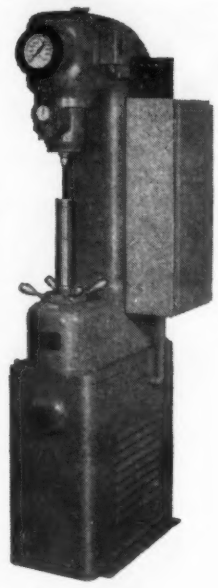


Wiring diagram for plastic molding machine application and backview showing plug-in feature

ALNOR INSTRUMENT CO.
Division of Illinois Testing Laboratories, Inc.
Room 529, 420 N. LaSalle St., Chicago 10, Ill

For more details circle NED-423 K1 on enclosed inquiry slip

colored lights SPEED UP brinell hardness tests



Colored lights indicate at a glance relative Brinell hardness for high-speed classification of incoming parts and stock. Precise reading on dial or by microscope.

Reduce tool breakage and annealing load

High-speed, hardness testing permits picking out, for annealing, only the too-hard materials that could cause tool breakage. This Riehle hardness tester soon pays for itself from savings on tool breakage, downtime and annealing. Bench-type, portable and micro hardness testers also available.

Write for information on the Riehle "Color-Glance" Brinell Hardness Tester and name of nearest representative. Address Dept. NEDS-1061.

BOOTH 429 NATIONAL METAL EXPOSITION

Riehle®

RIEHLE TESTING MACHINES DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

▲ For more details circle **NED-424 K1** on enclosed inquiry slip ▲

Measuring up to your toughest jobs

Bausch & Lomb

MEASURING MAGNIFIER

Here's a really dependable magnifier for quick, accurate measuring and inspection of all small items. Precision ground 7X Hastings Triple Aplanatic Lens provides wide, flat field, free from distortion. Quickly and easily focused. Long transparent body utilizes the maximum degree of light. This dust-tight, precision optical tool is available with four interchangeable scales. Order now using catalog numbers listed below.

81-34-35-01	Measuring Magnifier, in case, with four scales	$36.00
81-34-35	Measuring Magnifier, in case, no scales	14.00
81-34-36	General Purpose Scale	7.00
81-34-37	Inch Scale measuring .75" in .005" intervals .	7.00
81-34-38	Metric Scale measuring 20mm in .1mm intervals	7.00
81-34-39	360° Protractor Scale	7.00

This is just one of 71 different types of readers and magnifiers. Write for catalog No. I-103.

BAUSCH & LOMB SINCE 1853

Send in this coupon and receive a file folder describing the entire line of Bausch & Lomb readers and magnifiers. Address your request to BAUSCH & LOMB, 994 LOMB PARK, ROCHESTER 2, N.Y.

Name _____

Address _____

City _____ Zone _____ State _____

▲ For more details circle **NED-425 K1** on enclosed inquiry slip ▲

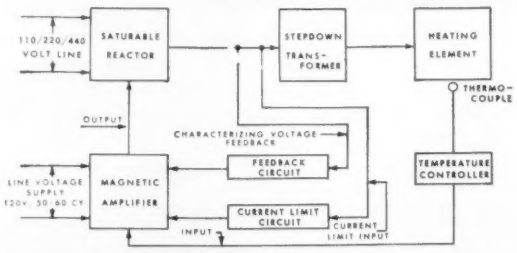
OPTICAL SYSTEM MAGNIFIER aids precision assembly

Intended to fill the gap between the microscope and an ordinary magnifier, this MacroScope optical system magnifies on a perfectly flat field without curves, barreling, or distortions. Color transmission is true and clear. A 22-w circular fluorescent lamp facilitates precision and delicate assembly, especially in miniaturization work, with minimum of eyestrain. Achromatic magnification multiplier is swung into position to double the 2.5X system to 5X and the 3.5X additive system to 7X. • **EdnaLite Research Corp.**, 222 N. Water St., Peekskill, N. Y.

▲ For more details circle **NED-426 K1** on enclosed inquiry slip ▲

PROPORTIONAL POWER AMPLIFIER change in system input produces a percentage change in process power

The electrical equivalent of an equal percentage valve, this proportional power magnetic amplifier, coupled with a standard saturable core reactor, produces a percentage change in process power upon a linear change



in system input. Among other applications, system can control electric furnace temperature with high accuracy, or any mechanical or electrical process where a proportional power curve is required.

Type 300 SRMA D 73312 magnetic amplifier operates from 110-v single-phase ac with 0-5 ma input, from any automatic controller installation. Output is normally 0 to 85 v dc. Power to heating elements is limited to any maximum from 50 to 100 per cent of reactor rating. This would prevent too much current from flowing into a furnace before it is warmed up and assumes its normal resistance.

To simplify maintenance, amplifier has five separately removable circuit panels installed in a heavy gage steel box built for flush or surface mounting. • **Hevi-Duty Electric Co.**, 304 Hart St., Watertown, Wis.

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MRC STAINLESS STEEL Ball Bearings

SEND FOR THIS FORM 1551
listing types and sizes

For improved performance in corrosive environment, where lubrication is marginal or non-existent — or in high temperatures, when lubricant may be ineffective in protecting the bearing surfaces. Dimensionally and functionally interchangeable with conventional bearings.

MRC BALL AND ROLLER *bearings*

Marlin-Rockwell Corporation
Jamestown, N. Y.

▲ For more details circle **NED-428 K1** on enclosed inquiry slip ▲

TORIT

Torit Cyclone Separator Model. High efficiency collection of all types of dust, chips and shavings. Up to 95% of the dust is removed from the air, drawn into the top of cone by centrifugal force, and settled to the dust reservoir below. Clean air is exhausted outside the building or indoors through after filters.

Self contained, compact, portable steel units. End mounted motor and blower mounted in free air for cool operation, is detachable for servicing or relocation of outlet. Cones can be rotated for proper inlet location. Dust reservoir has pull-out drawer for easy cleaning. Individual capacities range up to 6500 cubic feet per minute. Larger units are built on special order.

Prices start at $335.

DUST COLLECTORS STOP LOSSES CAUSED BY DUST

- *machine wear*
- *absenteeism*
- *product damage*

With a Torit Dust Collector, machines stay clean, hold close tolerance up to 80% longer. Dust is kept off bedways, slides, and bearing surfaces. There are fewer accidents because work areas are clean and safe. Employees work more efficiently in clean air, their health protected. And there is no dust in the air to harm fine product finishes.

✱ For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 230

TORIT
MANUFACTURING CO.
1133 Rankin St. • St. Paul 16, Minn.

▲ For more details circle **NED-429 K1** on enclosed inquiry slip ▲

modernize with HydroLectric

This powerful electric tractor hauls one or more trailer units with speed, safety and ease of operation

Two driving wheels instead of one • Sealed alloy gears instead of chains • 100% more steering ease with two wheel drive • Power unit removal complete in 20 minutes

Features the exclusive DYNA-DUAL POWER UNIT. Power enough to pull loads of 6000 lbs. or more at low cost.

LIFT TRUCKS INC. W.W.W. STUEBING CINCINNATI

Write for Bulletin KTR

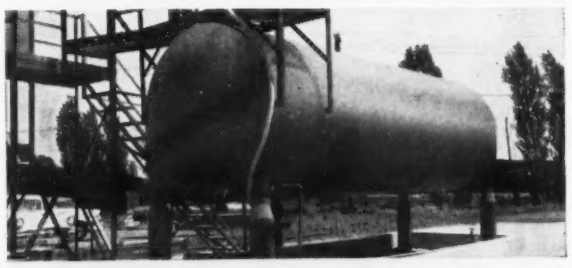
A TRUCK FOR EVERY PURPOSE AND MATERIAL

LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

▲ For more details circle **NED-430 K1** on enclosed inquiry slip ▲

GLASTEEL TANKS

solve problems of storing sticky, corrosive, or ultra-pure fluids



If your product is sticky, Glasteel (glass inside, steel outside) helps solve the cleaning problem. Very little adheres to the smooth, hard, non-porous surface of a Pfaudler® Glasteel tank.

With most corrosives, Glasteel ends the need for frequent tank replacement. Store all acids (except HF) and most alkalies with confidence.

If your product is *ultra pure*, it will not pick up impurities from Glasteel. Glass is inert. Glasteel protects purity, flavor, color and aroma.

And Glasteel storage is a *money-saver*. In sizes over 10,000 gallons, these tanks cost less than stainless steel. With corrosives, any size tank saves you money because of the long service life.

BULLETIN 975 provides details. Free. Write to our Pfaudler Division, NED-101, Rochester 3, N. Y.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

▲ For more details circle **NED-431 K1** on enclosed inquiry slip ▲

...offers you SAFETY and economy of feeding and ejection

PRES-VAC SAFETY FEEDERS feed blanks to press from a safe distance of 14 inches—BY AIR!—maximum protection to operators and handling costs kept at a minimum. Save those fingers. $35.00

AIR BLAST VALVES eject parts safely with each stroke of the press—BY AIR! Save those hands. $29.00

Write for NEW Catalog!

4583

LITTELL MACHINE CO. VAC-U-MATION DIVISION
4169 Ravenswood Avenue, Chicago 13, Ill.
District Offices: Detroit and Cleveland

For more details circle NED-432 K1 on enclosed inquiry slip

Now—a Honeywell indicating temperature controller at this low price!

T654A
$84.00

Honeywell T654A indicates and controls temperatures on an evenly graduated scale accurate within 1% of scale range. A liquid-filled thermal system with an armored tube actuates a *MICRO SWITCH** snap switch. This switch can control an *Actionator**, motor, relay, contactor or other device. Complete ambient temperature compensation for case and tubing. Unit can be surface or flush-mounted. Wells are available for applications requiring bulb protection. Ranges to 1200° F. Write Honeywell, Minneapolis 8, Minn.

Honeywell
First in Control
SINCE 1885

*Trademark

For more details circle NED-433 K1 on enclosed inquiry slip

POLYETHYLENE TUBE FITTING for vacuum or pressure service

A leak-tight seal on polyethylene tubing of all wall thicknesses is provided by this KayZee fitting without the use of inserts. It consists of a brass Swagelok tube fitting body with Zytel ferrules and a brass knurled nut which can be finger tightened, even for pressure or vacuum use. Fitting has a wrench pad on the nut if wrench tightening is desired. Sizes are stocked for 1/4 and 3/8-in. OD tubing. • **Crawford Fitting Co.**, 884 E. 140th St., Cleveland 10, Ohio.

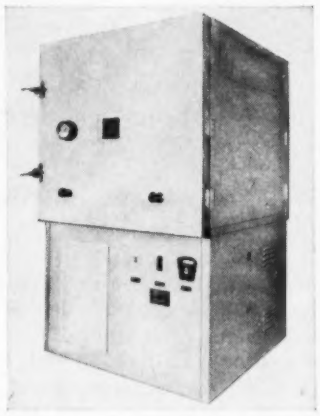
For more details circle NED-435 K1 on enclosed inquiry slip

SAFETY CIGARETTE DUNKER extends only 4 in. from surface

This Sipco Model TR (Trimstyl) cigarette dunking station, which has 6 1/4-in. width and 4-in. front-to-back dimensions, is 7 in. high. Large capacity unit fits well into locations where canister must not extend more than 4 in. from mounting surface. Made of cast aluminum and supplied with a lift-off mounting bracket, station is available in bright polished or gray crinkle finish with a satin finished lid. • **Standard Industrial Products Co.**, Dept. D, 3527 W. Farmington Rd., Peoria, Ill.

For more details circle NED-436 K1 on enclosed inquiry slip

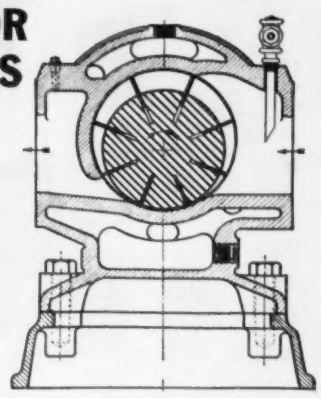
VACUUM OVEN for processing and drying



Large doors on both the front and rear of this vacuum process and drying oven enable large objects to be easily loaded and unloaded. When installed between two rooms, loading can be from one room and unloading from the other. The 80-cu ft oven has inside dimensions of 48 x 48 x 52 1/2 in. and attains a vacuum level of 4 in. of mercury and a temperature of 250° F. It will evaporate 12 lb of water within a 1-hr period. Oven chamber, heating elements, and vacuum pump measure 60 x 54 x 94 in. over-all. • **Stellar Electronics Corp.**, 1621 Winn Joyce Rd., Garland, Tex.

For more details circle NED-437 K1 on enclosed inquiry slip

COMPRESSOR ADVANTAGES WITH FULLER ROTARIES AND VACUUM PUMPS



- Low Maintenance In Continuous Duty Operation
- Vibration Free Design Requires Minimum Foundation And Floor Area
- Pulsation Free Air Supply
- Volume—to 3300 cfm (32 cfm low)
- Pressure—to 125 psig (20 psig low)

Fuller reliability is your guarantee of long term economy in compressor or vacuum pump specification. Write for details. Ask for free Bulletin C-5A. 2639 C-361

FULLER COMPANY
154 Bridge Street
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Fuller — pioneers in harnessing Air
SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World
"See Chemical Engineering Catalog for further details and specifications."

For more details circle NED-438 K1 on enclosed inquiry slip

Laminated Plastic PARTS Any Size Simple or Complex

An Example of Synthane *You-shaped* Versatility

No matter how many laminated plastics parts you need, Synthane Corporation is the place to buy them. We're versatilely equipped to do the job—with hundreds of machines, designed especially for handling laminated plastics. Our people have years of experience in tackling any job in quantities from one to a million, in sizes large, small or in between, simple or complicated. This specialization results in complete control from manufacture of material to finished parts.

You-shaped Versatility makes Synthane a Better Buy in Laminates

SYNTHANE CORPORATION OAKS, PENNA.

Synthane Corporation, NE River Rd., Oaks, Pa.
Gentlemen:
Please send me information relating to Synthane as a source for laminated plastics materials and parts.
Name_____
Address_____
City_____ Zone____ State_____

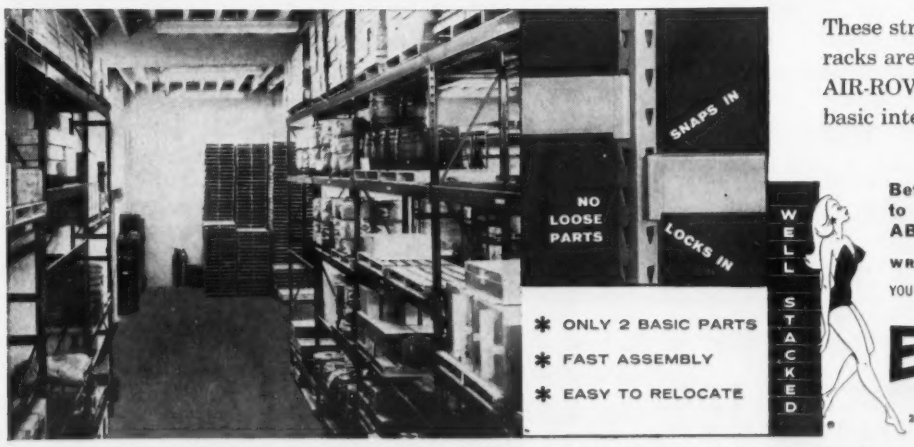
For more details circle NED-439 K1 on enclosed inquiry slip

FLEXIBILITY

EMI *air-row head pallet racks*

the most flexible, cost saving and work saving racks in the industry.

EMI *air-row head DRIVE-IN RACKS* • **EMI** *air-row head DRIVE-THRU RACKS*



These strong, efficient, space-saving racks are all engineered on the AIR-ROW Head principle with basic interchangeable parts.

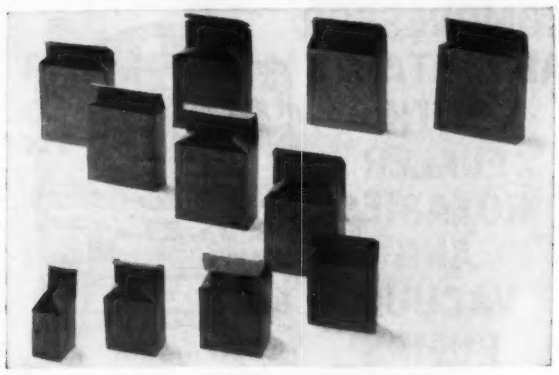
Before you build, remodel or add to a storage area, FIND OUT ABOUT AIR-ROW HEAD RACKS

WRITE FOR DETAILED INFORMATION

YOU CAN STACK ANYTHING ON EMI RACKS

EQUIPMENT MFG. INC.
21550 HOOVER ROAD • DETROIT 5, MICHIGAN

For more details circle NED-434 K1 on enclosed inquiry slip



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from ⅞" x ⅞" x 1" up to 5¾" x 5¼" x 7".

Ask for free samples, with sizes and price list.

Spark* makes the difference

STONE CONTAINER Corporation
Campbell Division
903 S. Main St., South Bend 23, Ind.
General Offices: 4200 W. 42nd Place, Chicago 32, Ill.

For more details circle NED-440 K1 on enclosed inquiry slip

New all-weather WORK GLOVE

replaces jersey, cotton and leather

Sure gripping — Repels grease and water — Flexible, warm, washable and long wearing

The most efficient all-weather work glove combining safety, comfort and wear. The Tuf-Duk gives a sure grip on any material, keeps hands warm and dry outdoors and in.

Tough vinyl-impregnated palm with lightly impregnated back repels grease and moisture. Stretchable jersey liner and wing thumb give perfect fit and hand dexterity.

Available in driver's style, safety cuff and knitwrist.

FREE TEST OFFER TO D&B LISTED FIRMS

All-Weather Tuf-Duk is one of more than 50 *job-fitted* types of Edmont coated gloves. Describe your operation and problem, any grease, solvents, other chemicals present, temperature condition. We will send correct gloves (specify men's or women's) for on-the-job testing. Edmont Inc., 1240 Walnut St., Coshocton, Ohio. In Canada, Edmont Canada Ltd., Cowansville, Quebec.

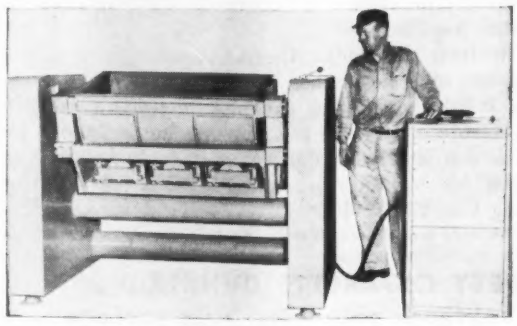
ALL-WEATHER TUF-DUK . . . by

Edmont

For more details circle NED-441 K1 on enclosed inquiry slip

VIBRATORY FINISHER achieves shaking forces to 50 g

A resonant electromagnetic system achieves shaking forces up to 50 g in this 6-cu ft capacity Vibrodyne Model V-600 vibratory finishing machine for deburring,

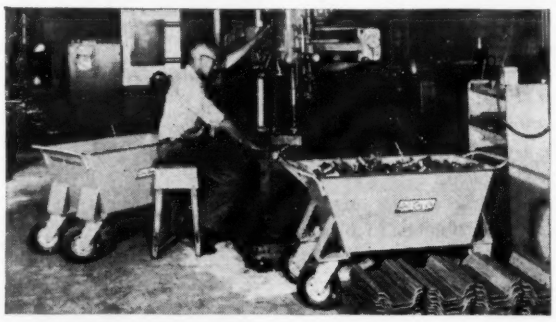


radii-forming, descaling, flash removal, cleaning, and polishing. The 37 x 20 x 15-in., air-dumped tub is the only moving part. Shaking force is set from 0 to 5/16-in. amplitude by a single knob. It creates a continuous rotary turnover motion for 100 per cent scrubbing action between media and parts. Machine operates on 220 v ac and holds a 750-lb charge. It weighs 2750 lb, yet does not need to be bolted to the floor. • **Globe Industries, Inc.**, Vibrodyne Div., 125 Sunrise Place, Dayton 7, Ohio.

For more details circle NED-442 K1 on enclosed inquiry slip

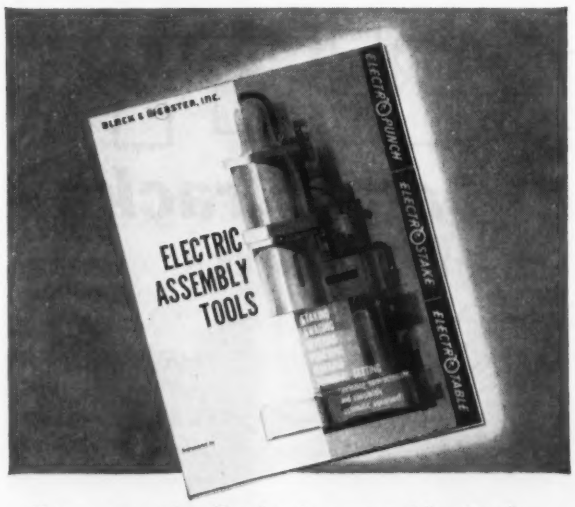
MATERIAL HANDLING CART for liquid or bulk materials

Transport, shipping, storage, and other handling operations involving liquid or bulk materials or parts are facilitated with the Model 10-IN Tote-Tank. A long,



narrow, deep 10-gage welded steel tank is mounted on a reinforced frame with easy-rolling 10 x 2.75 semi-pneumatic, 10 x 2.50 flat hard rubber, or 10 x 2.00 flat steel tired wheels. Front wheels are nonswivelling and have a lever-actuated spring steel friction brake. Swivelling rear wheels have a kick lock to prevent rolling when parked. Cart has full-width steering or lifting handles at both ends of the tank for pulling or hoisting. Ample underclearance permits fork truck handling, and sloped end eases cleaning. Price is $155. • **Lull Engineering Co.**, 3045 Highway 13, St. Paul 11, Minn.

For more details circle NED-443 K1 on enclosed inquiry slip



Here are the fastest assembly tools in their class . . . introduced to you in this FREE catalog.

If you want to speed up production and cut costs in a wide variety of assembly operations requiring staking, crimping, swaging, riveting, peening as well as marking and punching, write for this new, complete Black & Webster catalog, describing the most modern, fastest all-electric assembly tools in their class. Write:

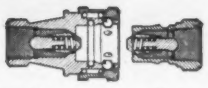
BLACK & WEBSTER, INC.
570 PLEASANT ST., DEPT. 1, WATERTOWN 72, MASS.

For more details circle NED-444 K1 on enclosed inquiry slip

HANSEN

SERIES HK® QUICK-CONNECTIVE
TWO-WAY SHUT-OFF COUPLING

QUICK FLUID LINE CONNECTION OR DISCONNECTION
WITH
INSTANT AUTOMATIC FLOW OR SHUT-OFF



Instantly shuts off both sides of line...prevents loss of liquid, gas or pressure

During instant of disconnection, "O" Ring in Socket provides tight seal—eliminates nuisance of leakage or spillage. In reverse, when Coupling is connected, "O" Ring seals Coupling *before* valves in Socket and Plug release flow from both sides of line.

Furnished in brass or steel with female pipe thread connections from ⅛" to 1½" inclusive—also up to 1" in stainless steel.

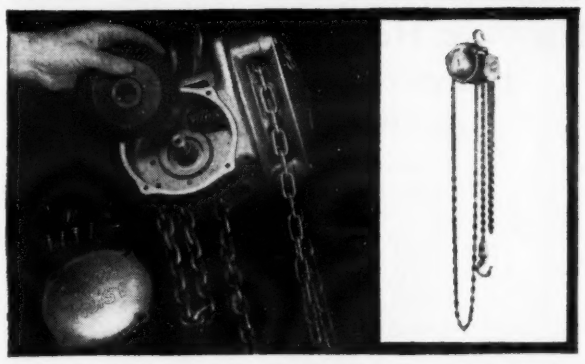
Write for the Hansen Catalog

a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-445 K1 on enclosed inquiry slip



NEW COFFING PORTA-HOIST

Spiroid* Gear Transmission • Aluminum Alloy Housing

The new Coffing hand chain PORTA-HOIST with its exclusive Spiroid gear transmission has fewer moving parts to wear, assures you of long dependable service with low maintenance. It also provides strength and safety as the gearing has more teeth in contact.

The aluminum alloy housing and the compact power package gives you a hoist that is easily portable.

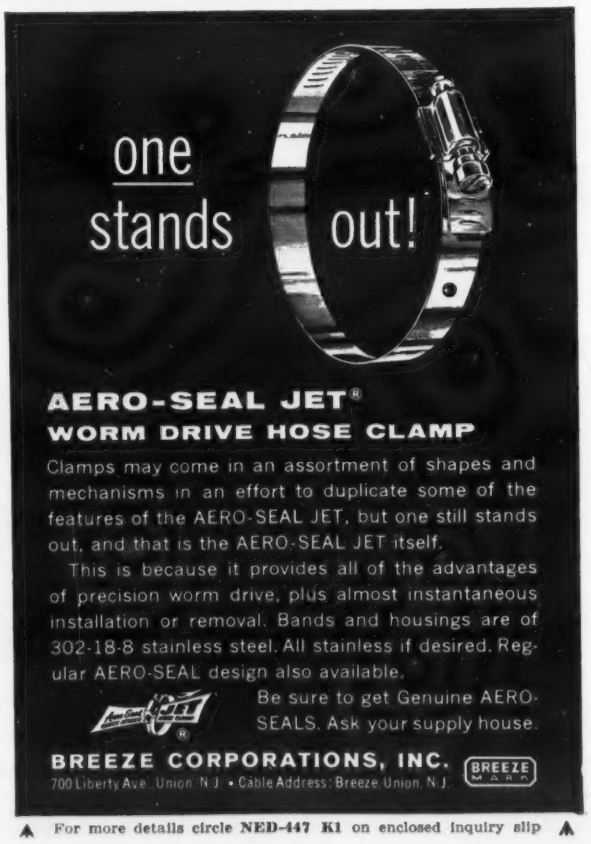
The Porta-Hoist line has 11 models with ½ to 12 tons capacity. Write for Bulletin ADH-76-N.

*Spiroid® is a registered trade name by Illinois Tool Works.

COFFING HOISTS

DUFF-NORTON
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-446 K1 on enclosed inquiry slip



AERO-SEAL JET®
WORM DRIVE HOSE CLAMP

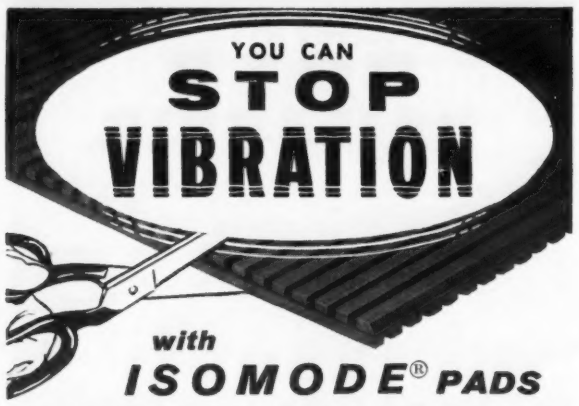
Clamps may come in an assortment of shapes and mechanisms in an effort to duplicate some of the features of the AERO-SEAL JET, but one still stands out, and that is the AERO-SEAL JET itself.

This is because it provides all of the advantages of precision worm drive, plus almost instantaneous installation or removal. Bands and housings are of 302-18-8 stainless steel. All stainless if desired. Regular AERO-SEAL design also available.

Be sure to get Genuine AERO-SEALS. Ask your supply house.

BREEZE CORPORATIONS, INC.
700 Liberty Ave., Union, N.J. • Cable Address: Breeze, Union, N.J.

For more details circle NED-447 K1 on enclosed inquiry slip

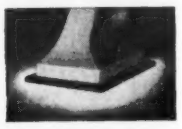


Low-Cost Sample Pad will prove it!

Isolate heavy machine vibration effectively and cut down noise with ISOMODE PADS made of durable, oil-resistant DuPont Neoprene. Patented design supports 200 pounds of machinery with only four square inches of pad. *Eliminates need to anchor machinery;* makes machine installation and re-location easier and more economical.

Send for details of one-pad trial offer at discount price, and free technical literature. Ask our representative to call and analyze your requirement.

Complete Line of Products For Vibration Isolation



ISOMODE
DIVISION MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 STATE STREET, NEW HAVEN 11, CONN.

For more details circle NED-448 K1 on enclosed inquiry slip

GOT A
CUTTING PROBLEM?

We Guarantee to Solve it or Your Money Back!

Tell us your problem and we'll send you the right saw or cutting tool. Use it for one month's free trial, then, if not satisfied, return the tool at our expense. We make this offer only because Huther products are of the finest quality and because we can specify the right tool for your application. Write, or phone collect.

If it's wood, metal, plastic, paper or textiles.

"We Can Cut It"

Huther Bros. Saw Mfg. Co. Inc.
1290 University Ave. • Rochester 7, N. Y.

For more details circle NED-449 K1 on enclosed inquiry slip

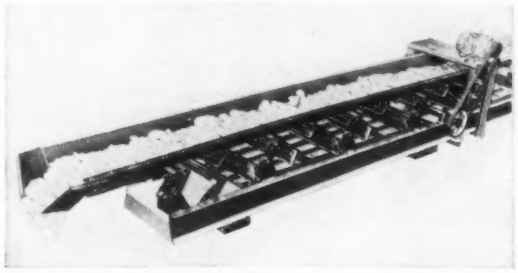
10 times faster than a surface plate. No reference standards are required with the Sheffield-Ferranti machine for measuring and laying out location of holes and surfaces to X and Y coordinates. Part tolerances of .001 and larger are indicated to the nearest .0005 with direct visual readout in lighted ¾" numbers. Instant zero reset—working range 15" x 24". Save time by rushing request for Bulletin FI-22.

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

For more details circle NED-450 K1 on enclosed inquiry slip

VIBRATING CONVEYOR
speed is infinitely variable

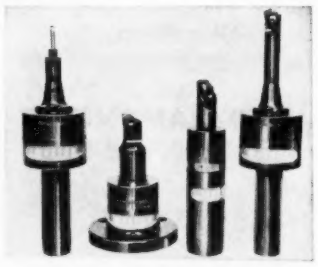
Variable stroke, positive drive of this natural frequency vibrating conveyor affords infinitely variable conveying speeds from zero to maximum. Either remote or



manual controls are available, and adjustment of the drive can be made any time. Drive permits regulating retention time of material in drying, cooling, dewatering, or similar operations, and also adapts conveyor to package feeding. Dynamic balancing minimizes power needed to operate the conveyor, and makes it unnecessary to bolt the machine down. Cable suspension is also feasible. Conveyor will move granular materials up inclines to 10 degrees. Nonbalanced conveyors are also available for use in 1800-2000° F ambients. • **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

For more details circle NED-451 K1 on enclosed inquiry slip

BORING BARS
four styles have graduated adjustments to 0.0001 in.



Four styles of boring bars are equipped with a graduated adjustment ring calibrated in increments of 0.0001 in. within a range up to ¼ in. Bar at left has two independent adjustments, one coarse in increments of 0.001 in. with total of 0.250 in. on diameter and the second for setting to 0.0001 in. with a 0.004-in. range. Nominal hole size variation is from ⅛ to ½ in. by use of interchangeable heads. Second bar from left, with total adjustment range of 0.004 in. in 0.0001-in. increments, is suited to close tolerance, long run work.

Bar for boring of any size hole in any type of machine, whether on centerline of part or not, is second from right. Adjustable in 0.0001-in. increments over a 0.008-in. range, it uses interchangeable heads for hole sizes up to ½ in. Bar at right has same coarse and fine adjustments as bar at left, but uses throwaway inserts. Interchangeable heads cover a ½ to 3-in. range. Lead angle, rake angle, and insert style are variable. • **Wesson Corp.**, 1220 Woodward Heights Blvd., Ferndale 20, Mich.

For more details circle NED-452 K1 on enclosed inquiry slip

NEW IMPROVED DESIGN SNAPO AUTOMATIC DELUXE RIVET GUN
ONLY $22.95 COMPLETE KIT WITH RIVETS

• **Pocket Size** • **All-Steel Construction**

For "blind"—and for many non-blind applications—here is the answer to low-cost, quick assembly. "SNAPO Automatic Deluxe" is jam-proof because of automatic ejection of the mandrel nail after the unique rivet is set. Eliminates many welding jobs, replaces sheet metal screws, bolts and nuts, gets into confined areas. Rivets absolutely will not vibrate loose, heads countersunk for easy finishing. *Write today!*

The Finest "Blind" Rivet Gun Made
We invite you to compare, and you'll agree that this is the most durable, highest quality, easiest-to-use "Blind" rivet gun made. Save time and money on fastening, repair jobs.

RICHLINE CO., INC. 1531 E. Franklin Ave. Minneapolis 4, Minn.

For more details circle NED-453 K1 on enclosed inquiry slip

FREE

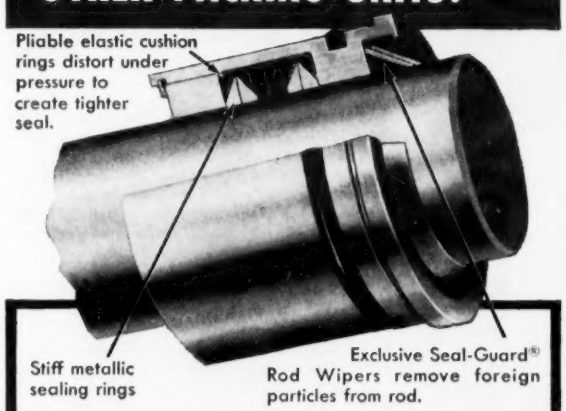
unusual.... upset forgings by COMMERCIAL

Bulletin 600-P1 available now. Write to Commercial Shearing & Stamping Co., Dept. J-40, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

For more details circle NED-454 K1 on enclosed inquiry slip

WHY MONOPAK® CARTRIDGES OUT-PERFORM OTHER PACKING UNITS!



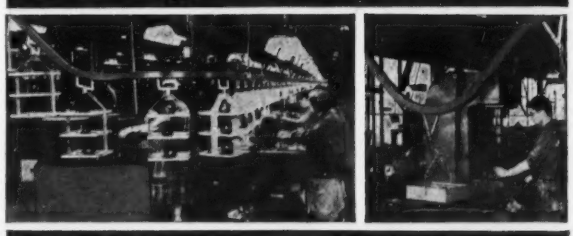
• Combines all essential packings, bearings and rod wipers in one complete package. • Low friction coefficient for longer service life. • Tamper-proof, shock and burst-proof. • Needs no machining—easily installed or replaced. • Trouble-free; cuts machine down-time.

Detailed literature on request.

HYDRAULIC ACCESSORIES CO.
24301 Hoover Road, Warren Mich.

For more details circle NED-455 K1 on enclosed inquiry slip

R-W "Zig-Zag" CONTINUOUS POWER CONVEYORS



WILL SAVE YOU TIME AND DOLLARS

"Zig-Zag" Conveyors offer a time-proven method of lowering overall manufacturing costs. Adaptable for small, special purpose conveyors or huge plant-wide systems that convey components and products through all production processes. Check these important "Zig-Zag" features...

- *VERSATILE*... efficiently transports unit loads up to 125 lbs. at speeds of one inch to 100 feet per minute... offers a proven multi-speed drive unit.
- *FLEXIBLE*... may be installed to move up, down, in, out and around ... the most flexible conveyor in its class.
- *RUGGED*... furnished in one, top-quality grade... chain, track, power units and accessories are "designed for each other," for years of dependable service and trouble-free operation.
- *RE-USABLE*... may be changed, expanded, altered or relocated with almost 100% reusability—will meet your needs now and for years to come.
- *STOCKED*... in most metropolitan areas for immediate shipment of all "Zig-Zag" components.

WRITE TODAY FOR "ZIG-ZAG" CATALOG

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

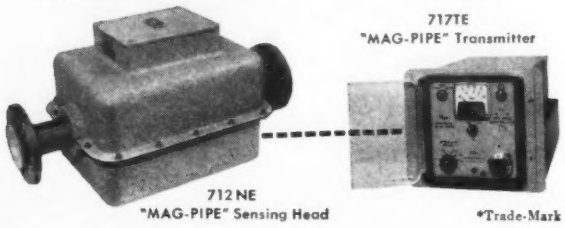
For more details circle NED-456 K1 on enclosed inquiry slip

NEW *Taylor* MAGNETIC FLOWMETER TRANSMITTER GIVES ½% ACCURACY

The MAG-PIPE* Magnetic Flowmeter Transmitter permits transmission of its 1-5 ma signal up to 10,000 ft. from point of measurement with high accuracy . . . ideal for central control rooms using miniature instruments. Designed to measure flow of fluids with electrical conductivity as low as that of distilled water. Excellent for very low flows, viscous liquids and liquids containing suspended solids.

Handles full scale velocities as low as ½ ft./sec. at only slightly reduced accuracy. Rangeability is ½ to 30 ft./sec. full scale calibration, continuous vernier adjustment.

Write for **Bulletin 98418.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Ontario.



*Trade-Mark

Taylor Instruments **MEAN ACCURACY FIRST**

For more details circle **NED-457 K1** on enclosed inquiry slip

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Babbitt *Adjustable* **SPROCKET RIM**
with Chain Guide
CHANGES THAT DANGER ZONE TO A SAFETY ZONE

enables you to ADD PLANT AREA

If re-aligning equipment will yield more working space, better production, lower costs . . . do it now. Save all space wasted for placing ladders to reach overhead valves. At the same time, convert Danger Zones to Safety Zones. Equip every overhead valve wheel in your plant with Babbitt Adjustable Sprocket Rims with Chain Guides.

- They simplify pipe layout.
- They fit any size valve wheel.
- They are easy to install and operate.
- They operate any valve from the floor.
- They save time and money.
- The first cost is only cost (no maintenance).
- They are packed completely assembled (one to a carton), with easy-to-follow instructions.
- A hot-galvanized rust proof chain is available for all sizes.

Babbitt Adjustable Sprocket Rims with Chain Guide are carried in stock by most mill supply houses. Just phone your mill supply salesman, or contact us direct.

Babbitt STEAM SPECIALTY CO.
16 BABBITT SQUARE, NEW BEDFORD, MASS., U. S. A.

For more details circle **NED-458 K1** on enclosed inquiry slip

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ARNOFOAM®

• INSULATES
• SEALS • CUSHIONS

- Polyurethane foam tape with pressure sensitive adhesive
- Thousands of non-connected air cells—density only 2 lbs. per cubic foot
- Insulates against heat and cold
- Deadens sound
- Seals out dust, dirt
- Absorbs shock and vibration, no bounce-back
- Waterproof, vaporproof
- Resists acids, grease, solvents

Available in 1/8", 1/4" and 1/2" thicknesses, widths from 1/4" to 36". Write for data.

ARNO ADHESIVE TAPES, INC. 5224 Ohio St., Michigan City, Ind. *Dr. Scholl's Adhesive Tape Division*

MANUFACTURERS AGENTS WANTED FOR SOME SELECTED AREAS

For more details circle **NED-459 K1** on enclosed inquiry slip

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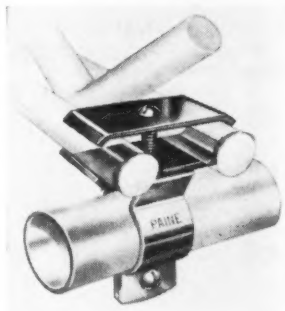
HANGER WASHER
fastens pipe to bar joists



A simple, dependable method of fastening conduit lines, fire sprinkler pipes, water pipe, and telephone lines to and directly below web joints is provided by this bar joist hanger washer. Outlet boxes, conduit clamps, eye bolts, and threaded rod can be attached to tubular and angle iron web joists with the washer. Size No. 475-4 has a ¼-in. hole, whereas No. 475-6 washer has a ⅜-in. hole. Two outside gripper edges are bent to a 45-degree angle to prevent slipping. They are zinc plated and furnished 100 to a box, without nuts and bolts. • **Paine Co.,** 983 Westgate Rd., Addison, Ill.

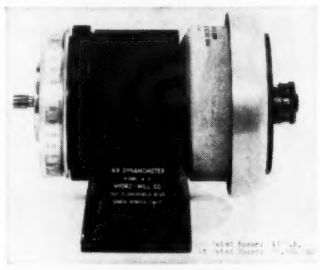
For more details circle **NED-460 K1** on enclosed inquiry slip

BALL BEARING SLIDE
for miniature equipment

Extremely thin three-section ball-bearing slide for standard or miniature equipment has a rated load capacity of 100 lb per pair. The Micro-Slide can support most electronic and industrial equipment. It measures 5/16 in. thick by 1⅝ in. high and can be used where space is limited. • **Grant Pulley & Hardware Corp.,** High Street, West Nyack, N. Y.

For more details circle **NED-461 K1** on enclosed inquiry slip

AIR DYNAMOMETER
12, 35, and 85-hp sizes



Self-contained Hydro-Mill air dynamometer is a braking or loading type unit with high power in relation to its size and a variable stepless load range of 1 to 30. The 12, 35, and 85-hp sizes have respective maximum speeds of 80,000, 50,000, and 32,000 rpm. Maximum torques are 9.6, 44, and 185 lb-in. Simple to operate and maintain, the relatively low cost Series A unit has three basic components: Base, torque scale, and air brake. Available for each base size are clockwise and counter-clockwise air brake components and six different torque scales, each covering a decade range of torque. • **Hydro-Mill Co.,** 1707 Cloverfield Blvd., Santa Monica, Calif.

For more details circle **NED-462 K1** on enclosed inquiry slip

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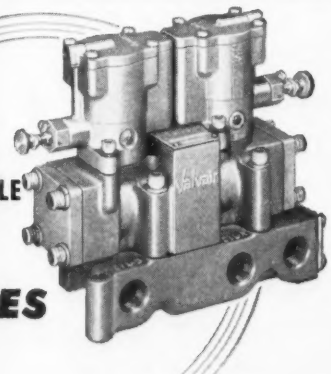
SPEED KING® SINGLE AND DOUBLE PLUG-IN AIR VALVES



Write for Bulletin SPL
Address: Bellows-Valvair Akron 9, Ohio Dept. NED-1061

Permanent piping and wiring connections are made in the sub-base or manifold at assembly. Then valves are plugged in, bolted down. Circuits are completed automatically. Assembly is faster, piping wiring and maintenance are simplified. 4-way type, sub-base or manifold mounted, guaranteed coils for ac or dc, full JIC, 1/4 through 1-1/4 in. NPT.

8182

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle **NED-463 K1** on enclosed inquiry slip

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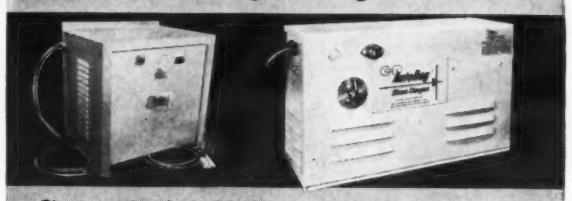
USE ELECTRIC INDUSTRIAL TRUCKS?

Get simplified charging; lower maintenance costs with a C & D *AutoReg*® charger



Chargers for 6, 9, 12, 15, 16, and 18-cell batteries
Choice of overnight or 8-hour chargers

ALL MODELS
- Provide long, trouble-free life.
- Eliminate need for skilled personnel.
- Are fully automatic.
- Charge same number of cells with smaller A.H. capacity without adjustment.
- Eliminate aging adjustments.

C&D *AutoReg* Silicon Chargers

Write for complete details—
12-, to 18-cell batteries, Bulletin AR-109
6- and 9-cell batteries, Bulletin AR-110

A PRODUCT OF C & D BATTERIES DIV., THE ELECTRIC AUTOLITE CO. OF CONSHOHOCKEN, PA.

For more details circle **NED-464 K1** on enclosed inquiry slip

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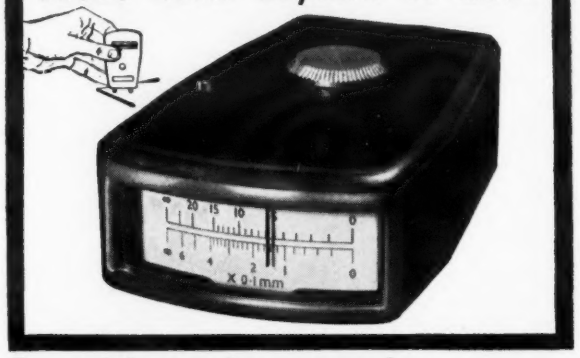
More than 10,000 in use:



For quick, precise measuring of nonmagnetic thicknesses

Elcometer Thickness Gauge measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics and other nonmagnetic coatings—*with a guaranteed* ± 5% ± .0001" *accuracy.* Handy pocket-size, it gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking button assures correct reading every time. Now available in *fifteen* double-scale models, with contact spheres, "V" block, or flat bases.

Complete with tough leather case, inner pocket for test strips, and carrying harness. Weighs only 6 oz.

ONLY **$83.75** F.O.B. CLEVELAND

Write for free Illustrated Folder
FERRO CORPORATION
4150 East 56th St., Cleveland 5, Ohio

For more details circle **NED-465 K1** on enclosed inquiry slip

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STOP COSTLY CORROSION DAMAGE TO PLANT FLOORS

SEND FOR THIS **FREE** BOOK TODAY!

WITH

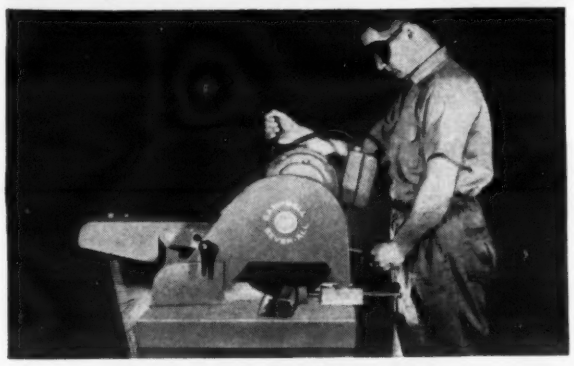
COROCRETE

MONOLITHIC FLOORING

Corocrete protects concrete floors from acids, alkalis and solvents. It costs less than acid-proof brick . . . takes less time to install . . . can be walked on 6 to 8 hours after application. Four times stronger than concrete, corrosion-resistant Corocrete is widely used in chemical, food processing, plating and metalworking plants. Send for complete information now.

THE CEILCOTE COMPANY, INC.
4838 Ridge Road • Cleveland 9, Ohio

For more details circle **NED-466 K1** on enclosed inquiry slip



NEW Model 1-A SEVER-ALL CUTS AT 3 to 6 SECONDS PER SQ.IN.–ECONOMICALLY

- New abrasive cutting machine—less than $500
- Wheel oscillation provides capacity up to 2" square solids, 3½" O. D. pipe and tubing, 3" angle iron, 4" channels
- Clean cuts on large or small sections
- Cuts cold rolled, stainless, and alloyed steel; cast iron; non-ferrous metals
- Little or no set-up time required
- Just two wheels for all SEVER-ALL cutting jobs
- Available from distributors

Write FOR BULLETIN DH-106

SEVER-ALL ABRASIVE CUTTING MACHINES ACCO

Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

For more details circle NED-467 K1 on enclosed inquiry slip

666. Jomac work glove. Reversible—any two make a pair. Men's knitwrist.

It's GLOVEMANSHIP that makes JOMACS your best buy in industrial work gloves

GLOVEMANSHIP is an art. It involves combining the ideal yarns, processing the cloth by techniques which will impart the wearing and protective qualities desired, creating patterns, styling cuffs and, finally, producing the finished gloves with real craftsmanship. Jomac practices GLOVEMANSHIP.

What does GLOVEMANSHIP mean to you? It means lower glove costs with quality gloves that afford maximum dexterity, more comfort; that resist oils, greases and stains; that protect hands and forearms against such hazards as cuts, burns, bruises and abrasions; that can be washed time after time.

For better fit, greater dexterity, more comfort, longer wear, and maximum safety in handling most chemicals, oils, greases, etc.—specify North PVC Coated Gloves.

To keep workers dry and comfortable in foul weather and to give them superior protection against chemicals, oils and greases—specify North PVC Protective Clothing.

WRITE FOR MORE INFORMATION ABOUT JOMAC INDUSTRIAL WORK GLOVES TODAY

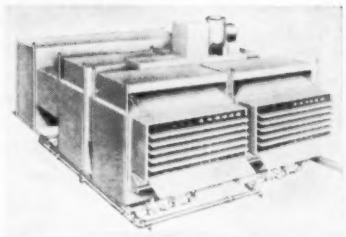
JOMAC Jomac Inc., Dept. G Philadelphia 38, Pa.

In Canada: James North Canada Company Ltd., Simcoe, Ont.

"JOMAC Sells Quality . . . and Quality Sells JOMAC!"

For more details circle NED-468 K1 on enclosed inquiry slip

PLANT HEATING ASSEMBLY is packaged ventilating unit



Practically limitless utilization of direct-fired gas equipment in heating, heating and cooling, partial or total fresh air makeup, processing, and similar systems is possible with this PAK Series heater assembly. It consists of from one to four Reznor duct furnaces with complementary packaged blowers, mechanical flue exhauster, and control system, all packaged ready for installation. Four models are available with inputs from 200,000 Btu to 1,400,000 Btu, assembled in either push-through or pull-through arrangement. • **Reznor Mfg. Co.**, Mercer, Pa.

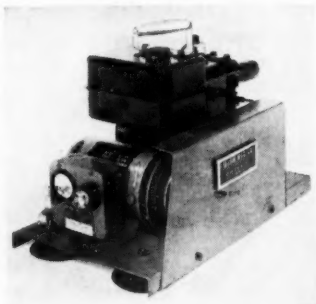
For more details circle NED-469 K1 on enclosed inquiry slip

SUBFRACTIONAL MOTORS in induction and synchronous types

Line of explosionproof subfractional-horsepower motors includes 1, 2, or 3-phase induction or synchronous types with ratings from 1/150 to 1/20 hp. Torque and dynamic brake types are also offered. Two, four, and eight-pole models give corresponding speeds of 3600, 1800, and 900 rpm. Flange or foot mountings are standard, with others on special order. • **National Pneumatic Co.**, Holtzer-Cabot Motor Div., 125 Amory St., Boston 19, Mass.

For more details circle NED-470 K1 on enclosed inquiry slip

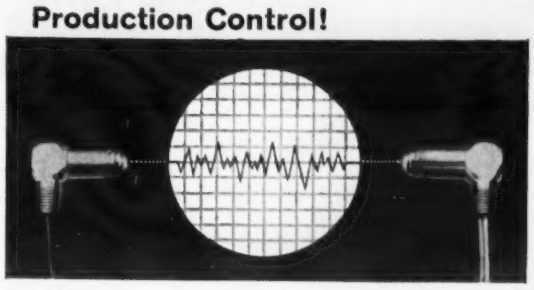
PORTABLE GENERATOR 75-lb unit powered by 3-hp engine



Power Sentinel 1000-w, 115-v ac portable generator is mounted on four vacuum cups for vibrationless installation. It is powered by a 3-hp gasoline engine and weighs 75 lb. Power is available for use by plugging into the generator receptacle. Three hours of continuous service is provided by a single fuel tank filling. Unit will power flood lights, portable tools, pumps, and other equipment, and is offered with a 6 or 12-v battery charger and rolling dolly as accessories. • **Bush Mfg. Co.**, 900 Rochester Rd., Clawson, Mich.

For more details circle NED-471 K1 on enclosed inquiry slip

HIGH SPEED Production Control!



Industries Served By PHOTOMATION:

- Packaging
- Printing
- Drugs
- Pharmaceutical
- Cosmetic
- Textile
- Chemical
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and hundreds of other processing industries.

Everyday users are finding new ways to place PHOTOMATION "electric-eyes" on high speed production lines. Where speed, accuracy and constant performance count the most. The new 1961 line of miniaturized units are designed to do the impossible jobs . . . right on the production line. These tiny electric eyes are backed up with years of experience and constant refinements to keep up with automation developments.

A staff of engineers—in key locations—are ready to consult with you on your problems.

Photomation Inc.
MOUNTAIN VIEW, CALIFORNIA

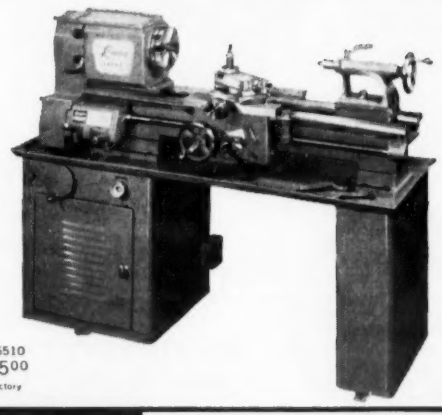
Write today for descriptive material.

For more details circle NED-473 K1 on enclosed inquiry slip

Logan 14" LATHES

Logan lathes have *sustained* accuracy. For example, the variable speed drive is always adjustable to any rpm (40-1400) while work is turning. Also, the spindle's 1⅜" bore and 1⅛" collet capacity provides required accuracy for varying jobs. And to be sure this accuracy is sustained, *every* lathe is tested and balanced before shipment. Write for specification-proof today.

accurate



Model 6510
$1,775.00
F.O.B. Factory

Logan

LOGAN ENGINEERING CO., DEPT. Q-1061
4901 W. Lawrence Ave., Chicago 30, Ill.

For more details circle NED-474 K1 on enclosed inquiry slip

R&M MOYNO® PUMPS

MOYNO® PUMPS *turn problems into profits . . .*

Many materials, once considered "unpumpable," are now successfully handled by Moyno Pumps. Moynos move thin watery slurries, non-pourable abrasives, gnawing corrosives or suspended solids up to 1⅛" dia. A wide range of specially-resistant pumping element materials assures proper design for economical handling without excessive pump wear. Capacities from 1/100 to 500 GPM; pressures up to 1000 PSI. Write for new Bulletin 100-NE

ROBBINS & MYERS, INC.

Moyno industrial pumps, motors, household fans, Propellair industrial fans, hoists

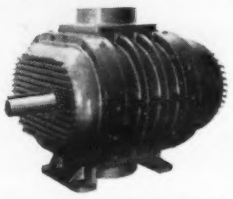
SPRINGFIELD, OHIO • BRANTFORD, ONTARIO

typical problem materials successfully handled by a MOYNO . . .

Acetates	Concrete Slurry	Paints
Acetic Acid	Copper Nitrate	Paper Pulp
Acid Mine Water	Creosote	Pickling Acids
Alcohol	Cutting Oil	Printing Inks
Alum (paper mill)	Cyanide of Potassium	Prunes
Aluminum Sulphate	Drilling Mud	Resin Plastic
Aromatic Hydro-carbons	Ferrous Sulphate	Salt Brine 3% to 30%
Asphalt	Fuel Oils	Sewage
Barium Sulphate	Fuming Sulphuric Acid	Shellac
Bichloride of Mercury	Gasoline	Shrimp
Boiler Feed Water	Glue	Soda
Bordeaux Mixture	Hydrochloric Acid	Starch
Carbon Dioxide	Impregnating Compound	Sugar
Carbonic Acid	Lacquers	Sulfurous Acid
Calcium Chloride	Lard	Tar
Caustic Soda (lye)	Latex	Turpentine
Cement	Match Head Compound	Varnish
Citric Acid	Molasses	Vinegar
Clay Slurry	Nickel Sulphate	Wood Pulp
Coffee Grounds	Nitric Acid	Yeast

For more details circle NED-472 K1 on enclosed inquiry slip

RADICALLY NEW! SUTORBILT SERIES 88 BLOWERS LIGHTER...SMALLER...QUIETER



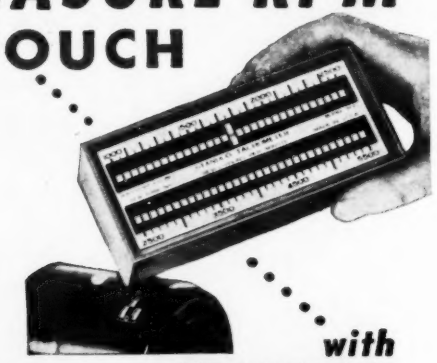
- 6 new models produce 200 to 2200 cfm up to 12 psi continuously, 15 psi intermittently.
- Standard or gear head ratios up to 3 to 1.
- Direct or V-belt drive.
- Mount vertically or horizontally—on trucks, tractors and trailers or in plant.
- Self-contained lubrication system.
- Special Sutorbilt timing hub.
- Write for free bulletin Department E.

2117 S 28 Representatives located in principal cities. Consult your classified telephone directory.

SUTORBILT IS WELL BUILT CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF. SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.

For more details circle NED-475 K1 on enclosed inquiry slip

MEASURE RPM by TOUCH



with

STANDCO VIBRATING REED TACHOMETERS

PORTABLE AND STATIONARY TYPES

- SIMPLE
- EFFECTIVE
- DURABLE
- SAFE
- IMPOSE NO LOAD
- EASY TO USE
- EASY TO INSTALL

Various models. Ranges as low as 600 RPM, as high as 100,000 RPM.

Bulletin No. 770

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

For more details circle NED-476 K1 on enclosed inquiry slip

Smooth, quiet, dependable operation of Elliott C-W integral h.p. motors is the result of good design, high quality materials and extraordinarily precise manufacturing methods.

Send for bulletin *The Fine Art of Building Better Motors.*

W1-6

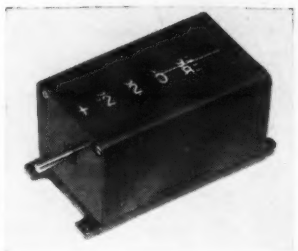
ELLIOTT COMPANY

GENERAL OFFICES: JEANNETTE, PENNSYLVANIA

PLANTS: Jeannette and Ridgway, Pa.; Springfield, Ohio

For more details circle NED-477 K1 on enclosed inquiry slip

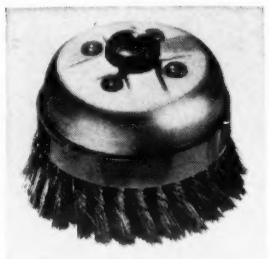
DECIMAL COUNTERS
readouts up to 99.9 and 999.9



Center scale decimal counters provide readouts of latitude and longitude positions and plus or minus quantities. Their center scale, or reversible reading, enables counting in either of two directions. Three or four-digit counters have readouts up to 99.9 or 999.9. For applications requiring high speed and low torque, counters with Geneva drives have speeds up to 1800 rpm. Units with odometer drives are also available. Counters make 2 counts per revolution. Numeral height is 0.188 in. • **General Precision, Inc.**, Kearfott Div., 1150 McBride Ave., Little Falls, N. J.

For more details circle NED-478 K1 on enclosed inquiry slip

CUP BRUSH
for use on high speed tools



Both threaded and plain arbor holes are available in these heavy duty cup brushes, made by a lock-rivet process in which all parts are riveted securely as a unit. Brush is designed for use on high speed pneumatic and electric portable tools. Various gages of wire are available, as are removable steel bridles which prevent excessive flare at high speed when the brush is new. Uses include removing weld scale, rust, corrosion, and old paint, and preparing metal surfaces for painting or finishing. • **Pittsburgh Plate Glass Co.**, Brush Div., 3221 Frederick Ave., Baltimore 29, Md.

For more details circle NED-479 K1 on enclosed inquiry slip

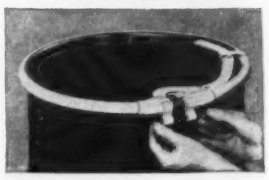
SOLDERING GUN
offered with solder dispenser

Iron plated copper tip of this soldering gun heats instantly when the trigger is pulled. The 100-w Model 8100B gun has a built-in prefocused spotlight to illuminate the work. Offered in combination with the gun is the Weller-Kormat dispenser which keeps the solder clean, provides back-up support at terminal point, and eliminates finger burning. It minimizes waste and reloads in 30 sec to dispense 0.028 to 0.074-in. diameter solder. Combination price is $9.95. • **Weller Electric Corp.**, 601 Stone's Crossing Rd., Easton, Pa.

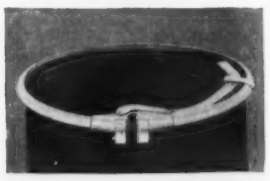
For more details circle NED-480 K1 on enclosed inquiry slip

NEW LEVER-BOLT RING

1. Apply ring to drum.



2. Clamp lever in place, insert bolt and apply nut.



3. Tighten bolt for finished job.

Provides air-tight closure for full removable-head drums

Just 3 quick-easy steps . . . and this new Lever-Bolt ring seals the drum, makes an air-tight closure, and provides double protection. Two independent locking means are provided: (1) the lever-lock, for a quick and generally adequate **reusable** closure, and (2) the nut-and-bolt, providing a positive seal in transit.

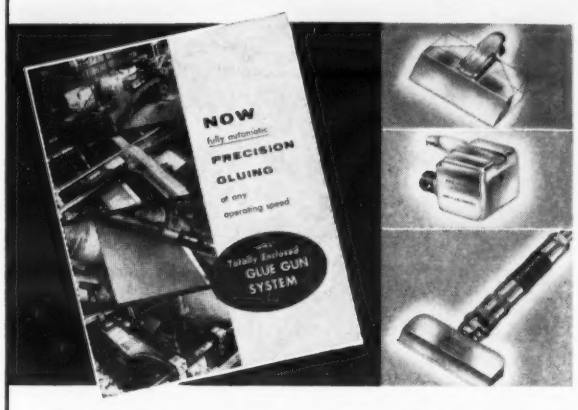
Gain simplicity, speed and better protection against damage and shipping losses. Specify Drum Parts LEVER-LOCK Rings for YOUR full removable-head drums. **Additional cost is amazingly low.**

Consult your drum manufacturer . . . or write for NEW CATALOG containing descriptive details on all Drum Parts closure devices. Send for your copy today.

DRUM PARTS, INC.
10311 Meech Ave., Cleveland 5, Ohio

For more details circle NED-481 K1 on enclosed inquiry slip

NEW FF GLUE GUN CATALOG
Lists over 700 Glue Gun Combinations



You can cut your gluing costs up to 83% (and more) with FF equipment. Because these amazing units eliminate glue waste . . . minimize clean-up time . . . insure optimum bonding at any operating speed, machine or manual. Standard conversion models for most all automatics. Specials to order. Easy installation. Fully guaranteed. Thousands in use. Write, wire or phone . . .

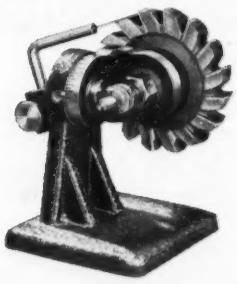
JOHN P. FOX COMPANY, INC.
1107 S. Mountain Ave., Monrovia, Calif. Phone EL 9-5323
"FF GLUE GUNS . . . SINCE 1946"

For more details circle NED-482 K1 on enclosed inquiry slip

WHERE CAN YOU USE THESE "TIME SAVERS FOR TOOL MAKERS"?

UNIVERSAL BORE GAGE is a simple holder to which any "Last Word" type indicator can be attached. For checking bores, O ring or snap ring grooves, thread reliefs, undercuts, etc. Range, with extensions, .200" to 6.000". Satin finish. With 4 pairs of points, wooden case, extensions, indicator. **$48.** Without indicator, **$24.**

CUTTER GRINDING FIXTURE for surface grinders. Sharpens all standard milling cutters up to 6" diameter. With bushings for 7/8", 1" or 1 1/4" bores, **$49.**



SWIVEL WHEEL DRESSER swings from 0 to 8" above chuck without cranking grinder spindle up and down. Adjusts either side of wheel, then locks. Precision ground, semi-steel base and arm casting. Serrated diamond chucks of hardened steel. With diamond, **$49.**

MACHINISTS' STEEL SQUARES. Save more than half the usual price! Accurate squares from England are precision ground all over with hardened and tempered blades.

2", $4. 4", $6. 6", $8. 8", $10. 10", $15. 18", $40. 24", $52. 30", $85.

FREE . . . new 1961 guide to "Time Savers for Tool Makers." It's packed with time and work-saving tools you can put to good use in your toolroom and production line. Write for your copy today.

MONTGOMERY & CO. Inc.
415 Morris Ave. • Springfield, N.J.
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All Montgomery tools are shipped on approval for 10 day free trial. We pay freight if check is sent with order.

For more details circle NED-483 K1 on enclosed inquiry slip

"BOSS" Self-Honing AIR VALVES

For Long, Efficient, Economical Service

"Boss" Valves require no packing. Bronze plug held by spring tension against harder metal of valve body is automatically honed to perfect seal as handle is turned. Straight, full-flow opening through valve body and plug provides greater capacity with no friction loss. Valve opens or closes by quarter turn of handle. *Male or Female* I.P.T. Both ends.

Sizes ¾" to 1½" have valve stem and handle combined in one-piece forged steel unit anchored to bronze plug *inside valve body.* Sizes ¼", ⅜", ½", 2", 2½", and 3" have externally riveted handles. New heavier, low-profile design available in sizes 2", 2½" and 3", Female I.P.T. both ends.

From Your Hose Supplier or Industrial Distributor

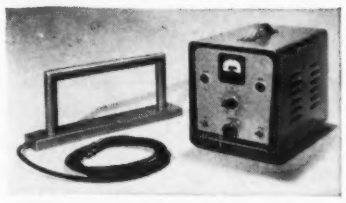
DIXON *Valve & Coupling Co.*

GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING, LTD., TORONTO

ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC., QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

For more details circle **NED-484 K1** on enclosed inquiry slip

METAL DETECTOR
detects all metals and alloys



Protection against tramp metal contamination in bulk materials or finished products, particularly food and drugs, is provided by this radio frequency metal detector. The high sensitivity unit detects all metal and alloys, both magnetic and nonmagnetic, even when packaged, if containers are nonmetallic. Search coil is shaped and sized to the installation. It can be cylindrical in form for use on pneumatic, liquid, or slurry lines. Second component, the control console contains the electronic detector circuitry, power relay to control an alarm, warning light, conveyor drive or reject mechanism, and an automatic time delay reset for rejection equipment. • **Morehouse Machine Co.,** 1742 Sixth Ave., York, Pa.

For more details circle **NED-487 K1** on enclosed inquiry slip

INDUCTION HEATING GENERATOR
develops up to 50 kw per sq in.

This Ther-Monic dual frequency induction generator can induce the equivalent of 50 kw into 1 sq in. of surface, yet the shallow penetration depth at the normal operating frequencies of 5 to 8 mc permits efficient coupling of high power to small diameters. Output control of all frequencies is by saturable reactor, assuring line regulation, fast response, and manual or automatic control. The 200-kc output station has a variable ratio transformer and direct tank loading. Selection of kilocycle or megacycle output is with a manual transfer switch. Changeover from transformer to direct tank loading is made by shifting links. • **Induction Heating Corp.,** 181 Wythe Ave., Brooklyn 11, N. Y.

For more details circle **NED-488 K1** on enclosed inquiry slip

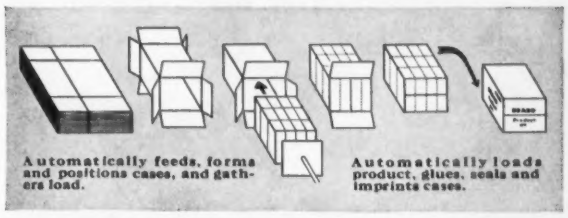
Guide to Heating Furnace Controls

FREE GPE Controls, Inc.—Virtually a treatise on automatic control for open hearth furnaces, glass tanks, reheating and annealing furnaces, and soaking pits, 24-page Catalog 122 also covers the various types of control sub-systems. Both hydraulic and electrohydraulic systems are described, including diagrams showing the best types of applications for each control method.

For more details circle **NED-489 K1** on enclosed inquiry slip

Take the HANDS out of PRODUCT HANDLING

Let Packomatic equipment do any or all your casing operations AUTOMATICALLY



FOR CASING ROUND, SQUARE, RECTANGULAR OR FREE-FORM PACKAGES OF VIRTUALLY ANY SIZE. If you employ even one person per shift to hand-form cases, or to hand-pack, hand-seal, or hand-imprint them, then it can pay you to install Packomatic equipment. Write, phone or wire for facts on how to reduce your casing costs.

PACKOMATIC DIVISION
TEXTILE MACHINE WORKS
READING, PA.

For more details circle **NED-491 K1** on enclosed inquiry slip

Get the quality you need to do the job right!

SUNOCO HYDRAULIC OILS

A quality line featuring the one right hydraulic oil for your application and service, that keeps you rolling! Check your Sunoco representative for the Sunoco Hydraulic Oils for the applications below. Or, write direct to Sun Oil Company.

FOR ANY HYDRAULICALLY-OPERATED MACHINE. *Sunvis oils.* Paraffinic. High viscosity index. For wide temperature ranges. For conditions requiring no fortified oil. *Sunvis 700.* For cleaning out dirt and sludge, and keeping clean systems clean. For systems where contamination is a problem, and service unusually severe. *Sunvis 900.* Solvent-refined. Paraffinic. Inherently high V.I.'s. Fortified to resist corrosion and rusting.

FOR 5% OR LESS MAKEUP MONTHLY. *Solnus oils.* Moderately priced. Excellent stability and corrosion protection. Low pour characteristics. Very low carbon residue. Mild cleansing action.

FOR HIGH RATE OF MAKEUP AND EXCESSIVE LEAKAGE. *Suntac oils.* Oxidation-inhibited. Additives reduce leakage.

FOR LOW TEMPERATURES, EXCESSIVE LEAKAGE, excessive contamination. *Circo oils.* Moderately refined vacuum distillates from selected crudes.

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SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-10
In Canada: Sun Oil Company Limited Toronto and Montreal

For more details circle **NED-485 K1** on enclosed inquiry slip

Get the quality you need to do the job right!

SUNOCO LUBRICATING OILS

Job-fitted by experts from a complete line of quality lubricating oils . . . backed with service you can count on. Check your Sunoco representative on any application, including those below. Or, write direct to Sun Oil Company.

FOR INDUSTRIAL RESERVOIRS and normal-temperature circulating systems. *Sunvis oils.* Long, trouble-free service. Uniform high viscosity index. Low pour point. Low carbon content. *Sunvis 700.* Cleans dirty systems. Keeps clean systems clean. *Sunvis 900.* Fortified against corrosion and oxidation. Uniform 0 F pour point. Longest possible oil life. Maximum protection to equipment.

FOR RECIPROCATING AIR COMPRESSORS and slow-speed diesels. *Solnus oils.* Prevent excessive carbon build-up. More lubrication per dollar. Ideal general lubricants. Oxidation-resistant. Extremely low carbon content. Prevent rusting and corrosion.

FOR HYDRAULIC, CIRCULATING SYSTEMS. *Suntac oils.* Reduce excessive leakage. Minimize dripping and splash. Clings to bearing surface. Supply constant, superior lubrication. Compounded to increase adhesiveness, oxidation stability, antirust protection, antiwear properties.

FOR HEAVY-DUTY APPLICATIONS. *Sunep oils.* Lead-naphthenate. Extreme pressure type. Rust-preventive. Non-corrosive. High stability. Prolongs gear-set life.

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SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-10
In Canada: Sun Oil Company Limited Toronto and Montreal

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Get the quality you need to do the job right!

SUNOCO GREASES

A complete line of quality greases . . . job-fitted to your requirements by experts, and backed by service that keeps you rolling. Check your Sunoco representative on the Sunoco Greases for the applications below. Or, write direct to Sun Oil Company.

FOR PRESSURE FITTINGS and equipment at normal speeds and temperatures. *Sunoco General Lubricating Greases.* Smooth. Water-resistant. Excellent pumpability.

FOR OPEN-GEAR APPLICATIONS. *Sun Adhesive Greases.* Tacky. Won't drip, squeeze out, or throw off.

FOR SLOW-MOVING, HEAVILY LOADED EQUIPMENT. *Sunoco Heavy-Duty Pressure System Greases.* Also for central systems. Available with EP characteristics added.

FOR ADVERSE WATER OR HUMIDITY CONDITIONS. *Sunoco Rust-Preventive Greases.* Water-resistant. Fortified to prevent rust.

FOR GENERAL-PURPOSE APPLICATIONS where water is not a factor. *Sunoco Short-Fiber Greases.* Heat-resistant, but not water-resistant. Excellent general-purpose greases.

FOR GENERAL-PURPOSE APPLICATIONS where water is a factor. *Sunoco Multi-Purpose Greases.* Water- and heat-resistant. Lithium-based. Available in stabilized or EP type.

For open gears and wire cables. *SUNOCO Gear Compounds.* Black. Adhesive.

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SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-10
In Canada: Sun Oil Company Limited Toronto and Montreal

For more details circle **NED-486 K1** on enclosed inquiry slip

Get the quality you need to do the job right!

SUNOCO CUTTING OILS

A full line of quality transparent and emulsifying cutting oils and chemical coolants . . . job-fitted by men who know what they're doing and backed by service that keeps you rolling. Check your Sunoco representative for help on any cutting oil including the following applications. Or write direct to Sun Oil Company.

FOR COOLING, LUBRICATING METALWORKING OPERATIONS. *Sunoco Emulsifying Cutting Oil.* Mixes with water to produce stable white emulsion. Economical. Excellent grinding coolant, too.

FOR MEDIUM DUTY ON AUTOMATIC SCREW MACHINES, cutting non-ferrous metals and free-machining steels. *Sunicut 11-S.* Low viscosity, excellent cooling properties. Ideal for high-speed production.

FOR "JOB SHOP" OPERATIONS where many metals are machined. *Sunicut 5534.* Transparent. Unusually versatile. For medium duty operations. Excellent general-purpose cutting fluid.

FOR PRODUCTION THREADING OF STEEL PIPE. *Sunicut 85.* Transparent sulfurized cutting oil. Contains oiliness additives. Provides smooth movement of collapsible die heads. Excellent for production form grinding.

FOR METAL CUTTING AND GRINDING OPERATIONS. *Sunicool* chemical coolant. Completely soluble in water. Clear. Non-oily. Recommended where excellent metal wetting and extreme pressure are desired.

FOR HIGH-PRESSURE, DEEP HOLE GUN DRILLING OPERATIONS. *Sunicut 416.* Gives exceptionally fine finishes.

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SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-10
In Canada: Sun Oil Company Limited Toronto and Montreal

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Get the quality you need to do the job right!

SUNOCO QUENCHING OILS

A quality line of both paraffinic and naphthenic oils . . . job-fitted by men you can rely on, and backed by service you have a right to expect. Check your Sunoco representative on any quenching oil need, including those below. Or, write direct to Sun Oil Company.

FOR LOW SLUDGING AND HIGH DETERGENCY. Sun Quenching. Oil Light. Well-refined. Naphthenic. Vicosity: 100-115 at 100 F. Reduces maintenance costs by keeping oil coolers and piping free from sludge.

FOR QUENCHING SYSTEMS REQUIRING high flash point oil. Sun Quenching Oil No. 11. Highly refined. Paraffinic. Viscosity: 100-120 SUS at 100 F. High thermal stability. Narrow boiling range. Also suitable for bright quenching from controlled atmosphere furnaces.

FOR MAXIMUM HARDNESS, MINIMUM DISTORTION in heat-treated steel parts. Sunquench 1070. Premium quality. Fast quenching . . . Oxidation-inhibited. High flash. Paraffinic. Viscosity: 85-95 SUS at 100 F.

FOR "HOT OIL" QUENCHING in 200-300 F range. Sunquench 1021. Premium quality. Fast quenching. Oxidation-inhibited. For quenching gears in automotive, farm machinery, and aircraft industries for maximum physical properties with minimum distortion.

FOR "HOT OIL" QUENCHING in 300-400 F range. Sunquench 2125-2145. Premium quality. Additives prolong life at high temperatures, help keep quenched parts clean and sludge-free.

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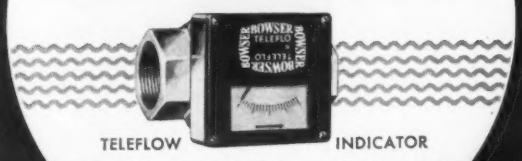
SUN OIL COMPANY
PHILADELPHIA 3, PENNSYLVANIA, DEPT. ND-10
In Canada: Sun Oil Company Limited Toronto and Montreal

For more details circle **NED-493 K1** on enclosed inquiry slip

BOWSER ESTABLISHED 1885

FLOW INDICATORS



TELEFLOW INDICATOR

Mechanical and electrical flow indicators; single and double-window flow sights; window flow indicators; and a full line of sight-feed oilers for O.E.M., in-plant and mill or machine installations.

Flow Indicators

Sight Feed Oilers

Flow Sights

Write for free Facts Booklet

BOWSER, INC. • FORT WAYNE, IND.

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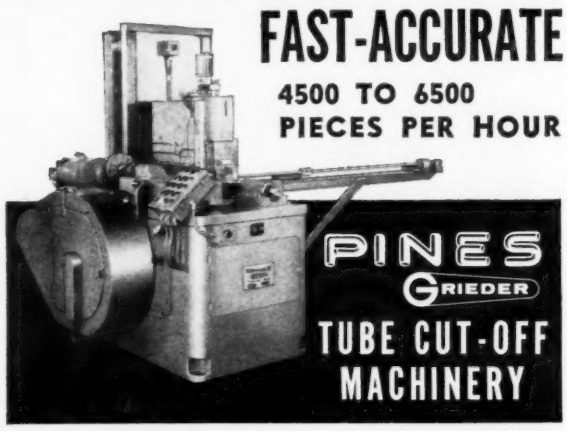
FAST-ACCURATE

4500 TO 6500 PIECES PER HOUR



FULLY AUTOMATIC • NO DISTORTION

Cuts round tubing up to 4" diameter — wall thickness to .250". Handles other tube shapes — cuts any length cleanly and with extreme accuracy. No tube-end distortion. Cuts steel, and other metal alloys. Tooling quickly and easily changed.

WRITE FOR CATALOG 441

PINES ENGINEERING CO., INC.

Specialists in Tube Fabricating Machinery 636 WALNUT • AURORA, ILL.

For more details circle NED-495 K1 on enclosed inquiry slip

Hoffman Glaceram® Core Bits

Hoffman Bit cores through high density alumina in seconds.

Large matrix with heavy diamond concentrate assures long, low cost coring.

OUTPERFORMS • LASTS LONGER • COSTS LESS

Hoffman Glaceram Bits are highly efficient over the widest range of industrial applications in coring extremely hard materials. Their special design assures better than "three-to-one" bit life for drilling or finish grinding glass, ceramics, quartz, flint, porcelain, etc. . . . even where face widths are as low as .025". Hold original O.D. or I.D. accuracy for life of the bit. In 1/8" to 2 7/8" diameters.

Write for Literature and prices. Ask about Free materials tests.

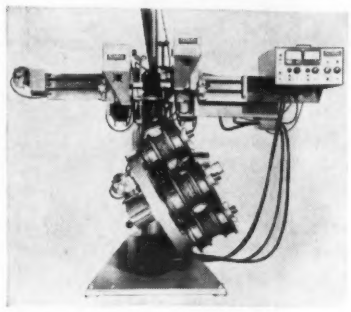
Diamond Tool Experts Since 1902

HOFFMAN BROS. DRILLING CO.

106 Cedar Street • Punxsutawney, Penna.

For more details circle NED-496 K1 on enclosed inquiry slip

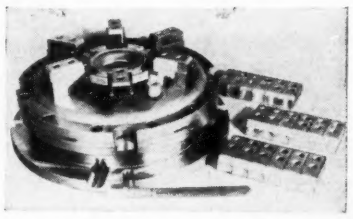
ROLLER IDLER REBUILDER
multiple unit has two weld heads



Automatic Model MR multiple spindle roll idler rebuilding machine has an offset main spindle support arm which provides minimum head adjustment from tread to flange. Unit shown has two 500-amp constant voltage, 100 per cent duty cycle power sources, and can use either layer wound coils or 500-lb Payoffpaks of welding wire. Columnized, easy-to-operate electronic control panel, full welding heads, and maintenance-free flux valves and shutoff mechanisms are built in. The carriage assembly is engaged for directional travel by a three-position lever. • **Stoody Co.**, Box 901, Whittier, Calif.

For more details circle NED-497 K1 on enclosed inquiry slip

AIR-OPERATED CHUCK
has 0.00015-in. repeat accuracy



Workpiece held in this air-operated chuck is gripped and released by compressed air on a piston which flexes the steel diaphragm. When pressure is released, the jaws close to grip the work. Chuck can be built with a double-acting piston for push-pull operation where additional grip is needed. It has short overhang and hardened and ground master jaws. Soft interchangeable jaws can be machined in place. Repeat accuracy with the hardened master jaws is 0.00015 in. Internal and external chucks are made in 5½-in. diameter three-jaw, 7-in. four-jaw, and 10-in. diameter six-jaw models. • **Erickson Tool Co.**, 34350 Solon Rd., Solon, Ohio.

For more details circle NED-498 K1 on enclosed inquiry slip

FLUID TEMPERATURE SENSOR
with 0.2-sec time constant

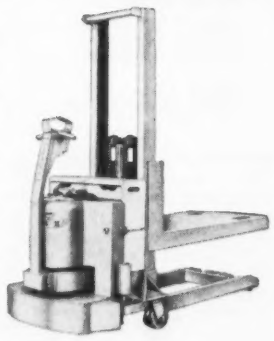
Sensing element of Model 176 immersion-type platinum resistance temperature sensor is protected by a stainless steel well. It has a 0.2-sec time constant and temperature range from −435 to 500° F. Designed for storage fuel applications in the missile field, unit is also suitable in any fluid compatible with the stainless well material. • **Rosemount Engineering Co.**, 4900 W. 78th St., Minneapolis 24, Minn.

For more details circle NED-499 K1 on enclosed inquiry slip

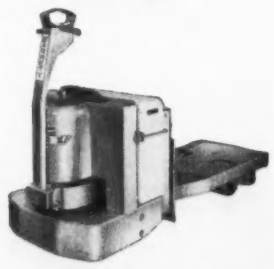
NEW BARRETT ELECTRIC PLATFORM LIFT-TRUCKS

HI

Unequaled for stacking skids or platforms in close quarters. Features push-button lifting and lowering as well as fingertip speed control. Many combinations available. Ask for Model HPG Bulletin No. 593.



Handle more skids faster at less cost with this push-button-controlled low-lift truck. Features *single-frame construction*, full 6-in. lift, high underclearance. Ask for Model PG Bulletin No. 591.



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BARRETT-CRAVENS COMPANY

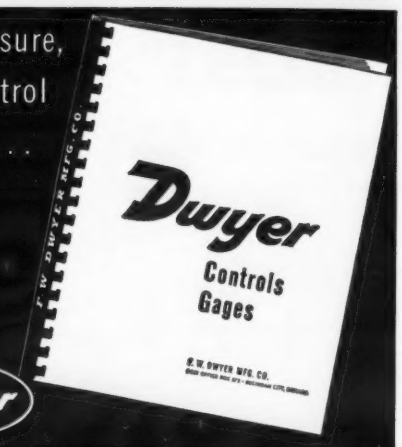
650 Dundee Road • Northbrook, Illinois

FIRST IN AUTOMATED MATERIAL HANDLING

For more details circle NED-500 K1 on enclosed inquiry slip

If you measure, test or control air or gas . . . you need this

NEW Dwyer INSTRUMENT MANUAL



All the Information You Need On:

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- inclined tube gages
- air filter gages
- hook gages
- air velocity meters
- flowmeters
- manometers
- pressure actuated switches
- pitot tubes
- combustion testing equipment
- formulas, charts, prices and other useful information with index tabs for easy reference

Write for your FREE copy today

F. W. DWYER MFG. CO.

P. O. BOX 373-Q • MICHIGAN CITY, INDIANA

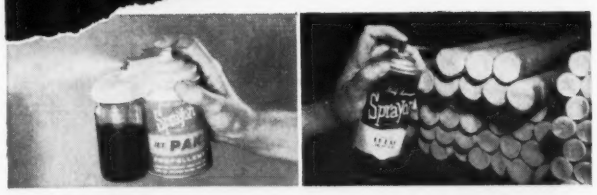
For more details circle NED-501 K1 on enclosed inquiry slip

- color code enamels
- marking enamels
- ASA machinery gray enamels
- wrinkle finishes
- high-heat aluminum
- zinc chromate primer
- gray primer-surfacer

CHECK LIST

- open gear and wire rope lubricant
- light oil lubricant
- penetrating oil
- dry graphite lubricant
- all-purpose silicone lubricant
- clear plastic
- silicone mold release
- red insulating varnish-enamel
- battery terminal protector
- blue layout fluid
- layout fluid remover
- anti-rust spray
- electric motor degreaser
- engine degreaser
- Jet-Pak self-powered spray gun

Which of these self-spraying products can you use?



CHECK THE LIST—THEN PHONE YOUR DISTRIBUTOR!

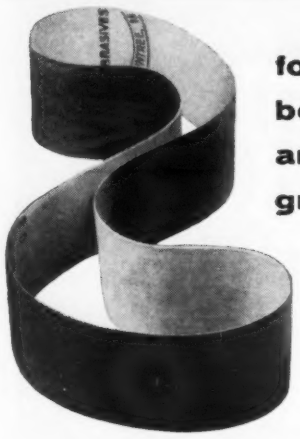
Single brand—single source

ONE CALL—THAT'S ALL!

The first **complete** line of industrial aerosols—your key to "push-button maintenance." Stocked and sold only by industrial distributors to give you quick service! Phone your distributor today for free handbook of 47 different maintenance and production aids in self-spraying containers—the better, faster, safer, cleaner, easier way to do a hundred jobs! Made by the oldest and leading custom-loader of aerosol specialties. If your distributor cannot supply you, write **Industrial Supply Division, Sprayon Products, Inc., 2063 East 65th Street, Cleveland 3, Ohio.**

Sprayon AEROSOLS FOR INDUSTRY

For more details circle NED-502 K1 on enclosed inquiry slip



for a better finish and lower grinding cost... JEWEL BRAND abrasive belts

Today's modern machines practically think for themselves, but they can't choose the right abrasive belt. That's why experienced men specify Jewel Brand. They know that Jewel Brand abrasive belts give them the right bond, the right backing, the right grain. For a trial run in your plant, call your industrial distributor or write Abrasive Products, Inc., South Braintree 85, Massachusetts.

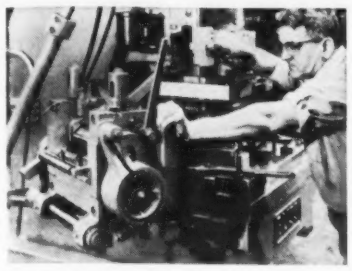
JEWEL BRAND

COATED ABRASIVES

belts • rolls • sheets • discs • specialties

For more details circle **NED-503 K1** on enclosed inquiry slip

SWING-OUT PRESS FEED
handles 0.125-in. stock 8 in. wide



Available on new presses only, this swing-out portable feed is used as a conventional single roll continuous feed. By removing two bolts, it can be swung away from normal position to permit single trip hand feeding. Feed will adapt to a number of presses of the same or different tonnages as long as each press is equipped with special mounting pads, pivot bracket, and throwblock. It handles 0.125-in. stock up to 8 in. wide and has feed length of 0 to 8 in. with feed height of 2 to 4½ in. • **E. W. Bliss Co.**, Press Div., 1004 E. State St., Hastings, Mich.

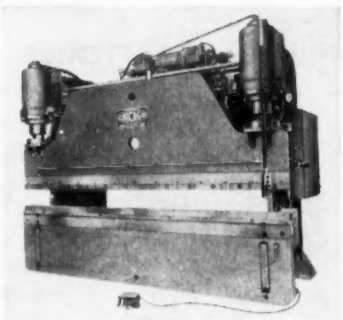
For more details circle **NED-506 K1** on enclosed inquiry slip

WORK GLOVES
have good abrasion, cut resistance

Nygran nitrile rubber used to coat these multipurpose work gloves effectively resists oils, greases, hydrocarbons, solvents, acids, and many other liquids and gases. Material also gives them high abrasion and cut resistance. It adheres well to the glove fabric and withstands low and high temperatures. Various sizes and styles are offered. • **Granet Corp.**, 25 Loring Dr., Framingham, Mass.

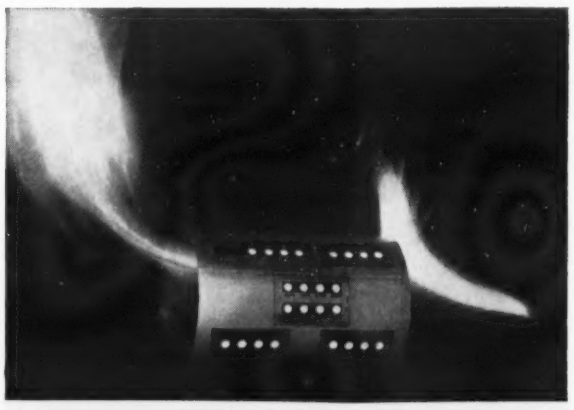
For more details circle **NED-507 K1** on enclosed inquiry slip

HYDRAULIC PRESS BRAKES
capacities are 100 to 1000 tons



Forty-two standard sizes with 100 to 1000-ton capacities are provided in line of hydraulic press brakes. Sizes to 2000 tons are available with specifications to suit individual requirements. Standard presses have bending lengths from 8 ft 6 in. to 22 ft. Throat depths range from 8 to 16 in., with strokes of 10 and 12 in. Features include variable-delivery Oilgear pumps, electronic sensing for precise ram-level control, compact panel with low-voltage control, infinitely variable ram speeds, and zero positioning. The 200-ton capacity Model 210H10 is shown. • **Dreis & Krump Mfg. Co.**, 7400 S. Loomis Blvd., Chicago 36, Ill.

For more details circle **NED-508 K1** on enclosed inquiry slip



TEMP-PLATE® TEMPERATURE INDICATING STICKER

Temp-Plates detect overheating of electronic components, vital airborne parts, industrial equipment, in a positive, direct manner. Simple, easy to use, irreversible, Temp-Plate is the thin little tab that sticks to the component, turns black when the temperature reaches any desired value between 100° and 1100°F. Impervious to ambient atmosphere and production line handling, Temp-Plate is accurate to ±1%, provides for absolute indication of heat damage. Write now for literature.

Actual Size

TEMP-PLATE/Pyrodyne, Inc.
11973 San Vicente Blvd.
Los Angeles 49, California

For more details circle **NED-509 K1** on enclosed inquiry slip

LepeL

High Frequency Induction

HEATING EQUIPMENT

For Hardening • Annealing • Soldering
Brazing • Zone Refining • Crystal Growing

ELECTRONIC TUBE GENERATORS:
1 kw; 2½ kw; 5 kw; 10 kw; 20 kw; 30 kw; 50 kw; 75 kw; 100 kw.

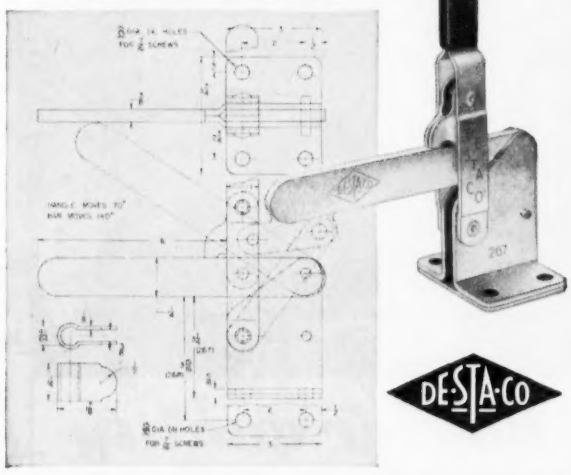
SPARK GAP CONVERTERS:
2 kw; 4 kw; 7½ kw; 15 kw; 30 kw.

WRITE FOR THE NEW LEPEL CATALOG 36 illustrated pages of valuable information

LepeL HIGH FREQUENCY LABORATORIES, INC.
55th ST. & 37th AVE., WOODSIDE 77, N. Y.
CHICAGO OFFICE: 6246 WEST NORTH AVE.

For more details circle **NED-510 K1** on enclosed inquiry slip

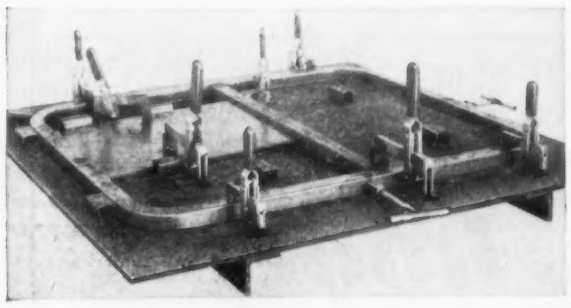
YOU CAN HAVE PRE-PLANNED PRODUCTION



DE-STA-CO

WITH DE-STA-CO TOGGLE CLAMPS

De-Sta-Co makes it easy to pre-plan production jigs and fixtures right on the drawing board! Detailed tracing templates, in full and half size, can be slipped under a drawing and spotted accurately—saves design time, speeds fabrication! Choose from over 140 models, there's a clamp for every job.



Steel welding fixture with 8 De-Sta-Co Model 267 Toggle Action Clamps holds parts securely during fabrication.

HOLDING PRESSURES FROM MERE OUNCES TO 16,000 POUNDS
FOR DETAILS—ASK FOR NEW 36-PAGE CATALOG

TOGGLE CLAMPS · SHIMS AND SPACERS · DE-STA-CO · STAMPINGS · BLOWER HOUSINGS

DETROIT STAMPING COMPANY
340 MIDLAND AVENUE • DETROIT 3, MICHIGAN

For more details circle **NED-511 K1** on enclosed inquiry slip

Dependable!

Sutton MOTOR DRIVEN PRESSURE BLOWER

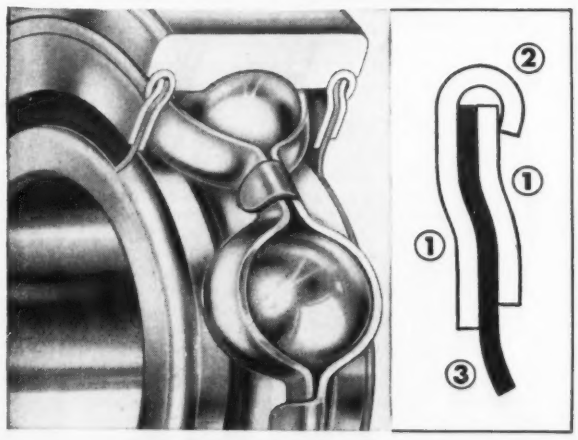
- For exhausting dust, smoke, fumes, vapor...conveying fibers, shavings...cooling, drying, forge blasting.
- One piece housing...self-cleaning wheel...strong lightweight cast aluminum.
- Even, non-pulsating air flow...straight wall design cuts windage—ups efficiency.
- Set direction of discharge in any of 8 positions.
- 100-800 cu. ft. at ½" to 6" static pressure.
- 3450 r.p.m. direct connected 60-cycle motor...3 sizes: ¼, ½, 1 H.P.

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle **NED-504 K1** on enclosed inquiry slip

FAFNIR "Seal in a Steel Sandwich" Stays Put . . . Seals Better!



The contact-type PLYA-SEALS in this Fafnir precision ball bearing are gripped between two steel supports (1) securely rolled into a groove in the bearing outer ring (2). This Fafnir "seal in a steel sandwich" stays put, resists push-in, provides positive protection (3) against contaminants and loss of lubricant. Bearings are permanently prelubricated and seals are nonremovable. Maintenance is reduced to a minimum. Contact your Authorized Fafnir Distributor for details. Or write The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS

For more details circle **NED-505 K1** on enclosed inquiry slip

NEW! LIGHTER! SHORTER!

HEAVY DUTY ½" DRILL

This compact D-handle series drill is five pounds lighter and four inches shorter than comparable industrial drills! It's easy on the user but handles tough general purpose drilling jobs in wood or metal. Standard equipment includes 3.6 amp. motor, 3 stage gear drive, precision key chuck and key, and 7'3" conductor cord.

See model 372 at your distributor or write for free folder. Porter-Cable Machine Company, Subsidiary of Rockwell Manufacturing Company, 626K N. Lexington Avenue, Pittsburgh 8, Pa.

Porter-Cable — another fine product by ROCKWELL

For more details circle NED-512 K1 on enclosed inquiry slip

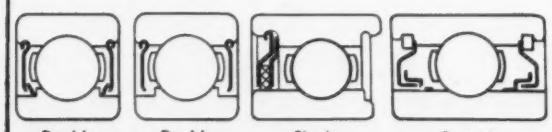
SEALED! SHIELDED! PROTECTED!

hoover quality

BEARINGS AT THEIR BEST

Hoover bearings achieve highest quality standards through the use of exclusive *Micro-Velvet* balls, accurate within millionths of an inch, and *Hoover Honed* raceways that are super smooth, superbly finished.

To preserve this superior quality throughout extended life, Hoover bearings can be protected with shields and seals to lock out dirt, grime and other harmful contaminants. As shown below, shields, seals in Teflon and felt, plus a combination of shields and seals meet a wide range of requirements. To assure highest quality . . . best protection . . . specify Hoover sealed or shielded ball bearings. Get complete information from your local Hoover bearing distributor listed in the Yellow Page Directory, or write us direct.



Double Contact Seal | Double Shield | Single Felt Seal | Cartridge

hoover

BALL AND BEARING COMPANY

5400 South State Road, Ann Arbor, Michigan

Zone Sales Offices and Warehouses: 8581 South Chicago Ave., Chicago 17, Illinois; 290 Lodi Street, Hackensack, New Jersey; 2020 South Figueroa, Los Angeles 7, California

Hoover Ball and Bearing Company NED-10
5400 South State Road, Ann Arbor, Michigan

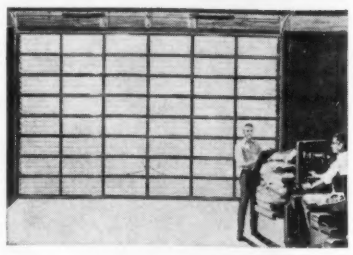
Please send me information on Hoover sealed and shielded ball bearings.

Name_____
Title_____
Company_____
Address_____
City_____ Zone_____ State_____

For more details circle NED-513 K1 on enclosed inquiry slip

TRANSLUCENT INDUSTRIAL DOORS

in five colors, sizes to 24 x 16 ft

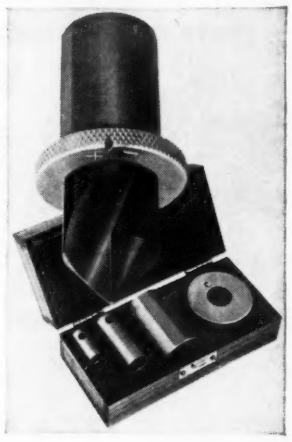


Weighing only one-third as much as comparable sizes of wood or metal doors, Filuma translucent doors are made in sizes up to 24 ft wide by 16 ft high and in choice of white, tan, yellow, coral, and green colors. These overhead doors are counterbalanced by adjustable torsion springs. The sections are reinforced glass fiber, tightly encased in extruded aluminum frames, with built-in truss, and overlapping section joints. Only a ⅓ to ½-hp motor is needed to operate the largest size. • **Frantz Mfg. Co.**, Sterling, Ill.

For more details circle NED-514 K1 on enclosed inquiry slip

COUNTERSINK RESHARPENER

fixture used in any tool grinder

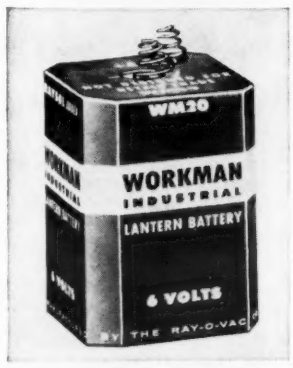


Suitable for resharpening Ford Uniflute countersinks to original factory specifications, the Unicam resharpening fixture is easily adapted to any tool room grinding equipment. Packaged assembly includes cam body, locating ring, adapter sleeves, key, and box. Price is $30. • **M. A. Ford Mfg. Co.**, 1545 Rockingham Rd., Davenport, Iowa.

For more details circle NED-515 K1 on enclosed inquiry slip

INDUSTRIAL BATTERIES

designed for long service life



WM-40 Size AA heavy duty penlight battery with polyethylene top and WM-50 6-in. ignition battery with screw terminals are additions to the Workman line of industrial batteries. Line also includes WM-10 Size D flashlight battery with steel construction and WM-20 6-v lantern battery (shown) with spiral spring terminals. All are designed for long service life under normal industrial application. • **Ray-O-Vac Co.**, 212 E. Washington, Madison 10, Wis.

For more details circle NED-516 K1 on enclosed inquiry slip

MINNESOTA RUBBER

FACTS for FILING on QUAD·RINGS®

The MR QUAD-RING gives superior sealing performance in hydraulic and pneumatic applications, either static or dynamic. The four lipped design prevents the rolling effect found with O-rings, thereby eliminating the common spiral twist failure. This exclusive design features four flexible sealing lips and permits installation with less squeeze, reducing friction, breakout force and wear. QUAD-RINGS can be made out of rubber compounds which exactly match the application. You can be sure of positive sealing when you use QUAD-RING SEALS in all your installations.

- POSITIVE SEALING UNDER ALL CONDITIONS
- ELIMINATES ALL SPIRAL TWIST FAILURE
- FOUR FLEXIBLE SEALING SURFACES
- LOW FRICTION INSTALLATION
- HIGH DENSITY INJECTION MOLDED
- RUBBER COMPOUNDS TO FIT APPLICATION

manufactured under U. S. patents RE 24332 and 2,873,132

NFPA

FOR MORE INFORMATION AND COPY OF THE QUAD-RING APPLICATION AND INSTALLATION HANDBOOK . . .

MINNESOTA RUBBER

WRITE DEPARTMENT 623 3630 WOODDALE AVENUE MINNEAPOLIS 16, MINNESOTA

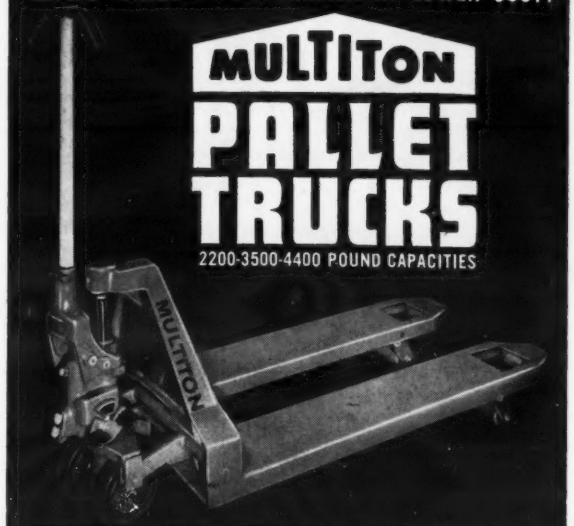
For more details circle NED-517 K1 on enclosed inquiry slip

SUPERIOR OPERATION AT LOWER COST!

MULTITON

PALLET TRUCKS

2200-3500-4400 POUND CAPACITIES



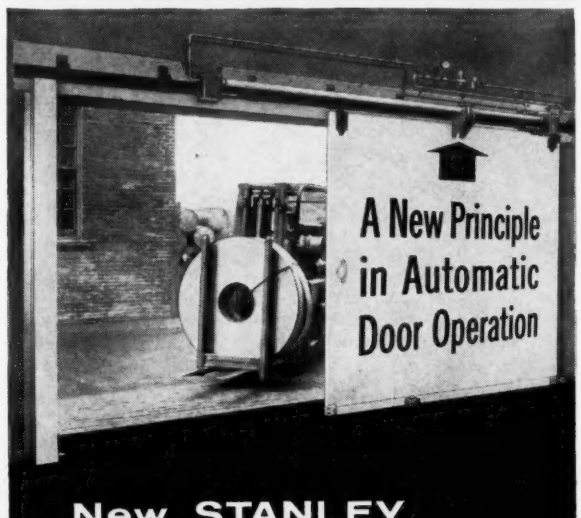
CARRIED BY THE NATION'S QUALITY DEALERS—BEST EQUIPPED TO GIVE YOU EFFICIENT SERVICE.

- ONE-PIECE LEAKPROOF HYDRAULIC UNIT
- 4½" LIFT IN THREE STROKES
- MINIMUM MAINTENANCE

Precision built to meet your most exacting requirements. Full six-month warranty.

STOKVIS MULTITON CORP. 18 SECATOAG AVENUE PORT WASHINGTON, NEW YORK

For more details circle NED-518 K1 on enclosed inquiry slip



New, STANLEY Low-Cost pneumatic door operator . . .

now makes all these profit-building advantages of automatic door operation available for most doors in your plant –

- **big return on your investment through controlled traffic flow**
- **faster materials handling**
- **reduced damage and maintenance costs**
- **increased production**
- **improved control of temperature and humidity at lower cost**
- **effective area separation or isolation *without* slowing materials flow**

Priced lower than any other automatic door equipment with complete control of door at all times, the new Stanley low-cost Pneumatic Door Operator now makes it economically easy for you to apply this unit to many doors in your plant where automatic operation can help you cut costs and speed flow of materials! Simple to install, it is pneumatically powered and can be operated from your regular plant air lines. Virtually no maintenance is required; all adjustments and repairs are extremely simple. Opening and closing motion is positively controlled through the entire operating cycle. This operator can be actuated by push button, pull cord, kick plate, floor plate or photoelectric. Speed of opening and closing is easily adjusted to suit your specific requirements.

The Stanley low-cost pneumatic Door Operator is supplied for single sliding doors up to 6 ft. in width and 300 lbs. in weight. Write today for complete information and see how this low-cost Pneumatic Door Operator can provide the cost-cutting high-performance answer to your automatic door operating requirements.

MAGIC-DOOR SALES

Stanley Hardware, Division of The Stanley Works, Dept. J, 58 Lake Street, New Britain, Connecticut

STANLEY

REG. U. S. PAT. OFF.

For more details circle NED-519 K1 on enclosed inquiry slip

MONOTRACTOR pulls heavy loads overhead

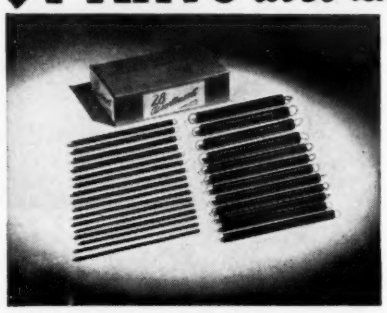
Rubber tire drive wheel rides any smooth bottom track. Good traction gets loads up inclines, down inclines, around curves. Use with manual or automatic systems including station selectors, selective automatic switching devices, electrical block systems, automatic trains, automatic loading devices, automatic selective discharge systems, cycle control panels.

Write for Bulletin C-2

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

▲ For more details circle NED-520 K1 on enclosed inquiry slip ▲

Stock SPRING assortments



Our #28 (extension) Spring Assortment folders are now available and yours for the asking. Our #31 (compression) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work.

To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

Find Your Nearest Paragon Agent In The Yellow Pages

We also manufacture to special order. Send samples or prints for quotation.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

▲ For more details circle NED-521 K1 on enclosed inquiry slip ▲

New ARMSTRONG "90" SERIES RATCHET

The ONLY Ratchet with ALL these important features!

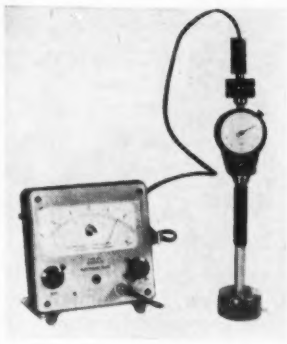
All wearable parts are replaceable; individually, inexpensively, easily. With no teeth cut into handle, it need never be replaced. *"ARMSTRONG" on these ratchets guarantees: advanced design, top quality and tool sense.

Extra heavy duty "50" Series ARMSTRONG ratchets (see right) in 1", 3/4", 1/2" and 3/8" square drive sizes. Our General Catalog 700, gives complete information on these and approximately 5500 other ARMSTRONG tools. Your local ARMSTRONG Distributors will supply you a Catalog and demonstrate the new ratchets. If you don't know who he is, write us for his name.

ARMSTRONG BROS. TOOL CO.
5245 W. ARMSTRONG AVE. • CHICAGO 46, ILLINOIS

▲ For more details circle NED-522 K1 on enclosed inquiry slip ▲

PRECISION MEASURING GAGE combines dial and electronic gages



Solution to gaging problems where large amounts of stock are removed, yet dimensions must be periodically checked with final-finish accuracy, is provided by this precision measuring gage. It combines a mechanical dial indicating gage with ample range for deep cuts, and an electronic indicator which automatically becomes activated as finish size is approached to check with extreme accuracy. Applications include turning of forgings, and boring, milling, lapping, honing, and jig boring operations where the hole must be constantly maintained within narrow limits. Electronic indicator of the portable gage is battery operated. Illustrated model gages bores from 1/4-in. ID up. Principle can also be applied to gages other than bore gages. • **Boice Gages, Inc.**, Boice Road, Hyde Park, N. Y.

▲ For more details circle NED-523 K1 on enclosed inquiry slip ▲

AC POWER REGULATOR 7½-lb unit regulates up to 4.6 kw

Compact, solid state, variable LabAC power regulator may be used for either manual adjustment or automatic control of alternating current up to 230 v. Its output is smoothly variable from zero to full power in response to a 0 to 5-ma control signal. Manual control knob may be used as a bias adjustment when operating from a remote signal. The 7½-lb unit regulates power levels up to 4.6 kw. Four models have current ratings of 10 and 20 amp and voltage ratings of 115 or 115/230 v. Applications include regulation of power supplied to laboratory apparatus; control of oven, furnace, or kiln temperature; and regulation of lights and signs. • **Research, Inc.**, Box 6164, Minneapolis 24, Minn.

▲ For more details circle NED-524 K1 on enclosed inquiry slip ▲

Steam Coil Engineering

FREE McQuay, Inc.—Complete design and application data on Type 5 steam coils are presented in 32-page Engineering Manual 305. Included are engineering specifications, coil selection data, performance tables, and piping data. Charts, tables, and diagrams aid in selection and application of these steam coils which have staggered tubes, copper headers, and ripple-corrugated fins.

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Let "CADILLAC" Prove Itself to *YOU!*
Portable
Cadillac WINCH HOIST

Model 202WN
Pat. No. 2,738,954
Pat. No. 2,927,771
Other Pats. Pending

LIFTS—PULLS—LOWERS 1000 to 4000 pounds

Aluminum Alloy Castings Withstand Corrosion

Stainless Steel Shafts & Springs

Preformed Aircraft Cable

SAFETY REVERSIBLE HANDLE is engineered to bend before any mechanical part is subjected to an overstrain.

Easy to Operate
Easy to Maintain
Lightweight—Only 7½ to 14 lb

$30.95 and up.

ALUMINUM PRODUCTS, Inc.
Est. 1943
699 S.W. 2nd Ave., Ft. Lauderdale, Fla.

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HERE'S WHY

LINK-BELT CONVEYOR TROLLEYS

RIDE SMOOTHER . . . LONGER

1. **EXTRA-LONG LIFE** results from carburizing and heat treating wheels, machined from steel tubing.
2. **FRICTION IS MINIMIZED** because cages space steel balls accurately.
3. **FREE-ROLLING ACTION AND HIGH CAPACITY** are benefits assured by precision-ground raceways.
4. **PRESS-FITTING** of bolts or rivets is another long-life feature.
5. **NO WHEEL "WOBBLE"**. Forged steel brackets provide strength to keep trolleys aligned.

15,005

NEW TROLLEY BOOK 2636 is now available. Send for your copy today.

LINK-BELT
BALL BEARING CONVEYOR TROLLEYS
LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill.

▲ For more details circle NED-527 K1 on enclosed inquiry slip ▲

NEW in the GITS line of VIEW GAUGES in 156 styles and sizes

FLUSH-MOUNTED, PRESS-FIT UNITS

ECONOMICAL CLEAR WINDOW

CLEAR WINDOW WITH REFLECTOR BACK

OBSERVA-DOME FOR WIDE-ANGLE VIEWING

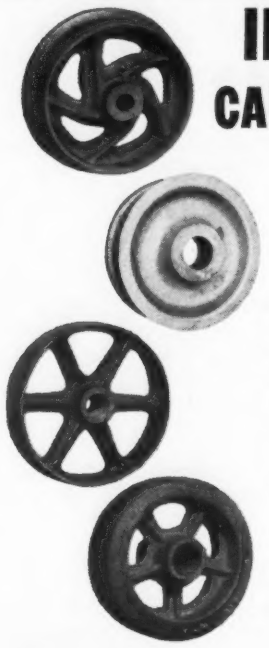
COLUMN TYPE

Save time and money by ordering from your nearby Gits authorized industrial distributor. Or send for new, complete Chart and Catalog of Gits View Gauges.

GITS BROS. MFG. CO.
1833 South Kilbourn Avenue
Chicago 23, Illinois

Specialists in Lubricating Devices and Shaft Seals for More Than Half-A-Century

▲ For more details circle NED-528 K1 on enclosed inquiry slip ▲



INDUSTRIAL CAR AND TRUCK WHEELS

High-strength gray iron wheels are available in a wide range of sizes and styles, including single and double flanged, flat face, and rubber, plastic or composition tired. Equipped with Chase flexible bearings or Timken, ball, bronze or other bearings of your choice. Wheels supplied rough or machined. Hub diameter and length to your requirements.

AXLES, BEARINGS AND ATTACHING BRACKETS AVAILABLE FOR ALL STYLES OF WHEELS.

Send your specifications for a prompt price quotation, or write for bulletin.

Chase FOUNDRY & MANUFACTURING CO.
2950 Parsons Ave. • Columbus 7, Ohio

For more details circle NED-530 K1 on enclosed inquiry slip

MEET THE MOTOR MOUNTED MONEY MAKER !

High performance and low cost blend beautifully in Blackmer's new MX Series, a rotary pump-and-motor "package." Installation is a breeze. No shaft coupling to adjust, no bulky baseplate to mount. Bypass valve is built right in. Save on electrical hook-up, too, because most models are complete with built-in motor switch and overload protection. Pick from 15 pump-and-motor combinations, standard fitted or solvent-handling, capacities 8 to 31 GPM at pressures to 125 psi. See your Blackmer distributor or write for Bulletin 100b.

"liquid materials handling"® equipment

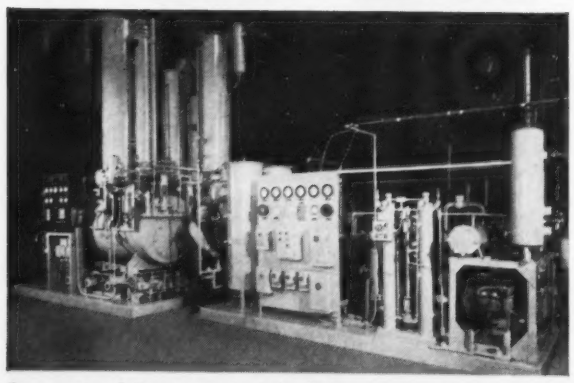
BLACKMER / rotary pumps

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN
Find your Blackmer Man under "Pumps" in the Yellow Pages

For more details circle NED-531 K1 on enclosed inquiry slip

DeMARKUS PACKAGED GAS PLANTS

for producing your own
CO_2 • NITROGEN • INERT GASES



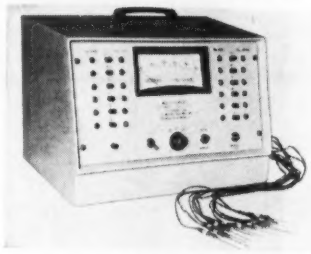
Large users of these gases (and dry ice) can reduce costs greatly by producing their own high-purity gases.
DeMarkus Automatic Packaged Gas Plants produce 50 to 500 lbs. per hour of CO2 for about 1c a pound and 2800 to 28000 SCFH of nitrogen for less than 2c per 100 SCFH. Compare these figures with your present costs.

Write for Bulletin CD-260 and a preliminary cost study.
Hydrogen and gas purification plants also available.

LOUIS DeMARKUS CORPORATION
and DeMARKUS INTERNATIONAL CORPORATION
(Western Hemisphere outside U.S.A.)
Specialists in Gas Manufacturing and Purification Processes
3089 MAIN STREET, BUFFALO 14, N. Y., U.S.A. • Cable Address: DICO Buffalo
In Europe: N.V. "AMA", ALKMAAR, HOLLAND

For more details circle NED-532 K1 on enclosed inquiry slip

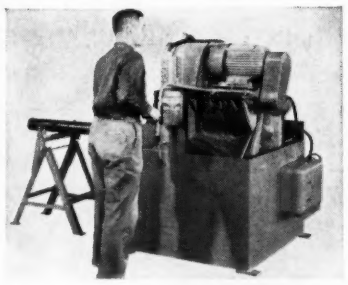
TEMPERATURE MEASURING UNIT makes multiple readings in sequence



Utilizing a variety of probes, this AT-14 automatic switching thermistor thermometer makes consecutive temperature measurements at several locations on the same subject, or at similar locations on multiple subjects. It is available with 3, 4, 6, or 12 channels and responds in 0.4 sec per 20° C change accurately within 1 per cent of full scale deflection. Direct reading scale can be supplemented by an output connection for simultaneous recording with any standard recorder. Each channel operates independently and has its own calibration control. Automatic sequential switching between channels is at 15, 30, and 60-sec intervals. Switching sequence can also be pushbutton controlled. • **Waters Corp.**, Box 529, Rochester, Minn.

For more details circle NED-533 K1 on enclosed inquiry slip

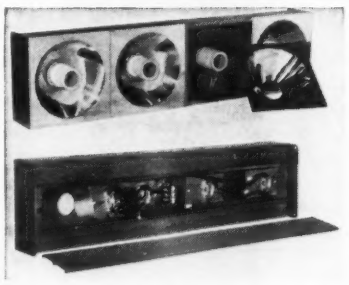
ABRASIVE CUTTING MACHINE oscillates to cut large sections



Solids up to 4 in. square, pipe and tubing up to 6⅝ in. OD, angle iron up to 6 x 6 in., channels up to 8 in., and flat stock up to 6 x 1 in. are cut by the Campbell Model 102-A abrasive cutting machine. A simple vise type clamp firmly holds a variety of shapes. Most metals are cut at a rate of 3 to 4 sec per square inch. Oscillating action permits making large cross-section cuts of high quality with minimum cutting pressure. Adjustable carbide-tipped wheel guides, stationary wheel guard, and glass fiber reinforced plastic curtains to prevent coolant splash are built in. Large separate coolant tank is mounted on casters for easy cleaning. • **American Chain & Cable Co.**, Allison-Campbell Div., 929 Connecticut Ave., Bridgeport 2, Conn.

For more details circle NED-534 K1 on enclosed inquiry slip

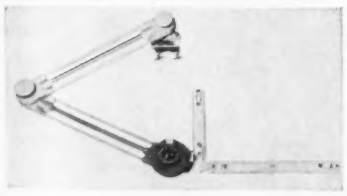
INFRARED OVEN SECTIONS generators now installed from back



Generators for dri-Quik ceramic type infrared oven sections can now be installed from the back, facilitating replacement by only one person even while oven is in operation. Reflectors may also be removed for cleaning without removal of the infrared generators, which was necessary on former models. Stainless steel as well as aluminum reflectors are available on all improved models. Physical dimensions remain the same. • **Dry Clime Lamp Corp.**, Greensburg, Ind.

For more details circle NED-535 K1 on enclosed inquiry slip

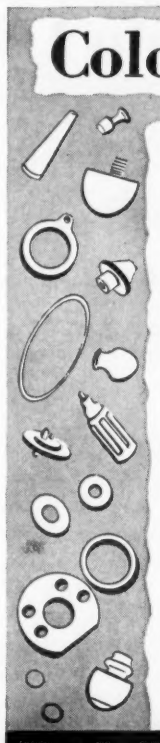
DRAFTING MACHINE improved for greater accuracy



An enclosed protractor and a new magnifier lens that insures accurate readings are features of improved Equipoise drafting machine. Magnifier rotates with the vernier through 360 degrees, and settings to within 1 min are easily made. Redesigned Equipoise mechanism has been repositioned for easy access from front of board. A second Equipoise-type mechanism has been installed in the drafting elbow. Appropriate adjustment of these two units allows board to be tilted up to 25 degrees. Ball-joint arm linkage permits lifting of arms without disturbing machine alignment, and leveling device allows mounting of machine on moderately warped boards. • **Charles Bruning Co.**, 1800 W. Central Rd., Mt. Prospect, Ill.

For more details circle NED-536 K1 on enclosed inquiry slip

Colonial Develops SPECIAL RUBBERS



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The Colonial Rubber Company has the experience, the technical staff, and the facilities to meet your *special* requirements in industrial rubber parts. Our service is fast, efficient and precise for three important reasons:

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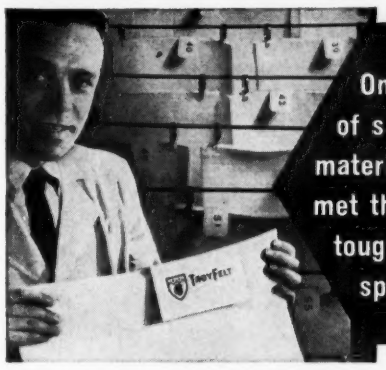
Colonial Rubber Co.
Ravenna, Ohio

For more details circle NED-537 K1 on enclosed inquiry slip



TROYFELT, a non-woven synthetic Dacron, gave best performance in military vehicle

To meet such rigid military filter specifications as 100% filtering efficiency in heavy dust conditions in sub-zero to tropical temperature extremes with resistance to oil, moisture, rot and mildew, sixty materials were tried and only one, Troyfelt, met the test as the filter on an engine intake air cleaner.

This success was due to Troyfelt's mechanically interlocked fiber construction. The absence of chemical binders or binder fibers prevents blinding and the structure gives Troyfelt unusually high, long-lived strength, excellent resistance to fungi and bacterial growth, chemicals, moisture, oil, abrasion, stability to temperature extremes.

Write for our bulletin describing other filter applications as well as applications on insulators, seals, padding, packings, gaskets and many others.

TROYFELT . . . *by the pioneers of non-woven synthetic felts*

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For more details circle NED-538 K1 on enclosed inquiry slip

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ASSEMBLY AND RUN-IN

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ELECTRICALLY CONDUCTIVE FILMS

PARTING AGENTS

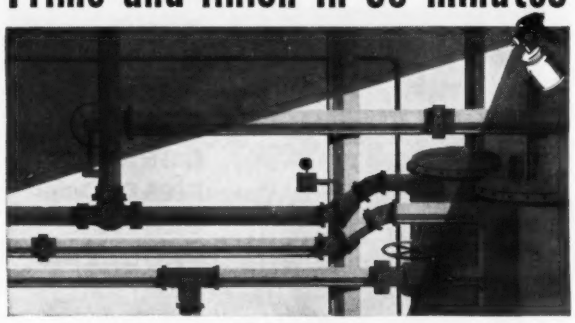
SOLID FILM LUBRICATION

Specific application recommendations and product data available on request.

ACHESON COLLOIDS COMPANY
Port Huron, Michigan

For more details circle NED-539 K1 on enclosed inquiry slip

Prime-and-finish in 90 minutes



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INPUT and TAKE-OFF Plate Assembly – To adapt above transmission for pulley, belt, gear or chain drive. Has high speed bearings and 1/2" diameter, keyway shafts. No. H-VT-1T2 20.00 PR

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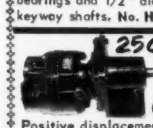

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PUMP MOUNT for above Pesco Pump Has specially designed foot mount and a key slotted drive shaft. High speed bearings. No. H-P25MT 16.95

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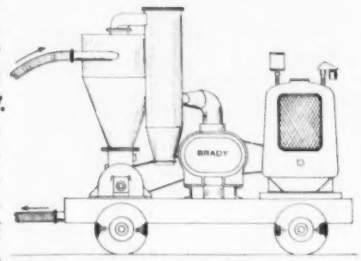
▲ For more details circle NED-541 K1 on enclosed inquiry slip ▲

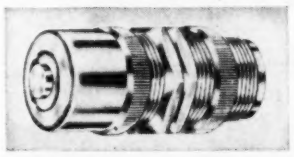
PNEUMATIC CONVEYOR handles granular materials

Various models of this portable, engine-driven pneumatic conveyor will handle from 3 to 20 tons per hour, depending upon size of unit and type of material being conveyed. It will load, unload, or transfer such materials through flexible hose lines. When used for plastic pellets, all parts in contact with the product are made of aluminum. Conveyor is self-cleaning and is shipped assembled, except for hoses. • **Brady Conveyors Corp.**, 4244 Dempster St., Skokie, Ill.



▲ For more details circle NED-543 K1 on enclosed inquiry slip ▲

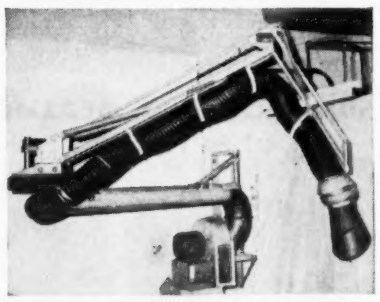
NONCONTACTING TRANSDUCER detects or excites vibrations



Usable for detecting or exciting vibrations without contacting the object being tested, Type PR-9262 electromagnetic pick-up has a frequency response to 120,000 cpm. This 2-in. long, 7/8-in. diameter, 1-oz transducer can also be used to investigate pulsating phenomena. It will check nonmagnetic objects by attaching a thin disc of silicon steel to the part. Both relative and absolute vibrations are measured and transformed into electrical voltages proportional to velocity. It is furnished with a 16-ft connecting cable and is priced at $145. • **Korfund Co.**, Acoustics & Instruments Div., Cantiague Road, Westbury, L. I., N. Y.

▲ For more details circle NED-544 K1 on enclosed inquiry slip ▲

WELD FUME EXHAUSTER adjustable to any angle



Usable in various types of welding operations, the Model 915EE double - rotating welding fume collector - exhauster has a length of 15 ft. Besides rotating 360 degrees at its base, the extended arm section also rotates 360 degrees to make possible fume collection at all angles with work. • **Blowers, Inc.**, 12655 S. Western Ave., Blue Island, Ill.

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The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

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DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

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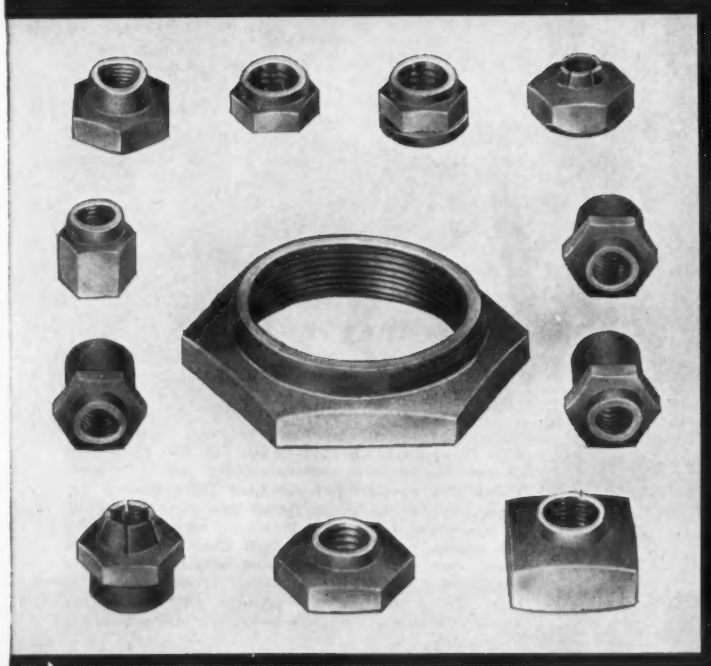
SPECIAL LOCKNUTS . . . *that solved fastening problems*



As the largest specialized nut manufacturer in the world we are constantly developing new methods and products for this phase of assembly in industry . . . in the field of locknuts we have made spectacular progress. Besides standardized hexagon "Conelok," "Huglock" and "Marsden," sizes #10—3" of ferrous and non-ferrous materials, we provide many special application nuts, upon a basis of these designs . . . a few of which are here shown . . . Our sales and engineering departments are available to help you solve your fastening problems . . . Send for 12-page condensus catalog, it includes complete specifications of our entire product, as well as engineering data. We also have an one hundred and forty four page catalog where more comprehensive information is required.

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FIT ANY AREA

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WRITE FOR BULLETIN P-55

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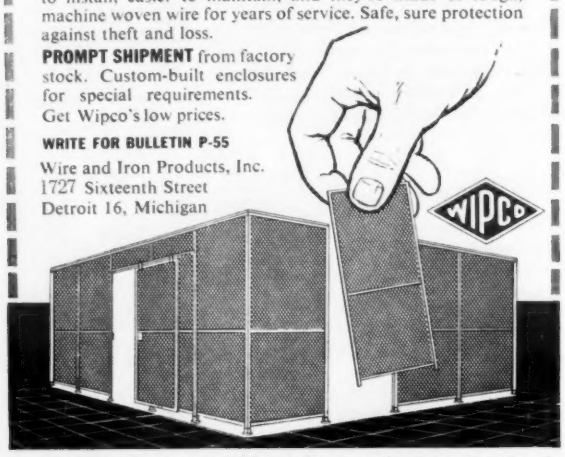
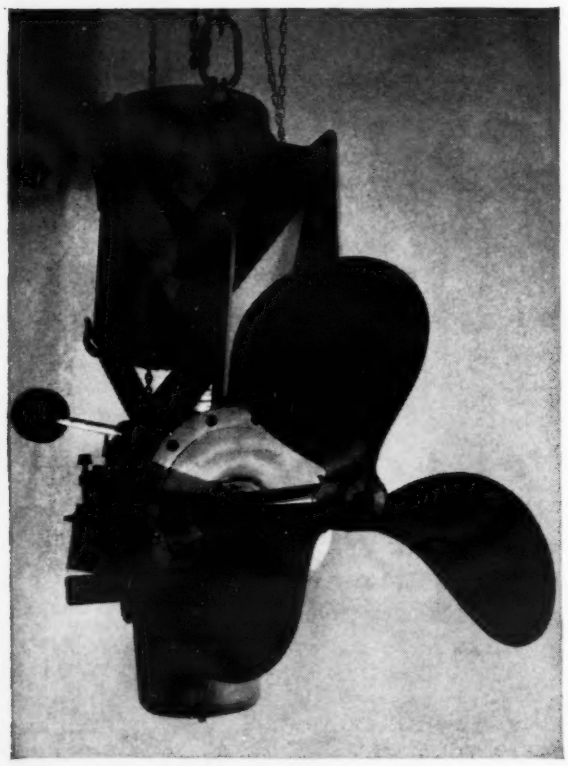
1727 Sixteenth Street
Detroit 16, Michigan



For more details circle NED-548 K1 on enclosed inquiry slip



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This side-entering mixer will deliver up to 50% more fluid flow per horsepower.

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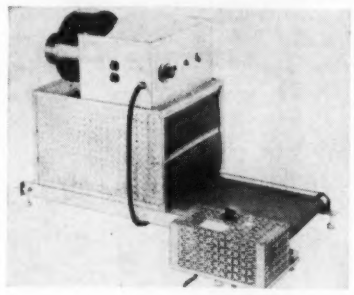
For more details circle NED-549 K1 on enclosed inquiry slip

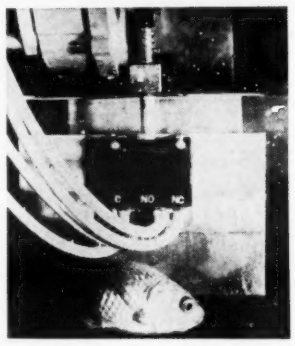
HEAT SHRINK TUNNEL
for making skin-tight packages



Products measuring up to 10½ in. high, 14½ in. wide, and any length can be packaged in skin-tight shrinkable plastic film by using the Model 850 heat shrink tunnel. Sleeve wrapped or over-wrapped products of many types are packaged in the film which draws smooth and tight as the package is conveyed through the tunnel. Equipment may be used on existing table space, or can be mounted on a Model 865 table with leveling lugs. The insulated tunnel has a Robertshaw thermostat for temperature control and a conveyor with reverse and variable speed control up to 25 fpm. The 3500-w unit operates on 110/220 v. Price of tunnel unit is $495. • **Cleveland-Detroit Corp.**, Clamco Div., 5400 Brookpark Rd., Cleveland 29, Ohio.

For more details circle NED-550 K1 on enclosed inquiry slip

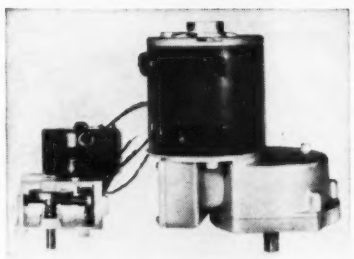
SNAP-ACTION LIMIT SWITCH
is waterproof, 1 million-cycle unit



Engineered for a minimum life of 1 million cycles, low-cost, waterproof snap-action limit switch can be actuated 200,000 times with full overtravel under 1 in. of water without leaking. Unit features a Delrin plunger sealed in a neoprene boot with a nylon outer case. It is designed for use in automatic dishwashers, food processors, bottlers, and refrigeration equipment subject to washing, steaming, or highly humid environments. Wire leads potted in epoxy resin, or spade terminals are available. • **Controls Co. of America**, 9555 Soreng Ave., Schiller Park, Ill.

For more details circle NED-551 K1 on enclosed inquiry slip

SUBFRACTIONAL GEARMOTORS
in 4:1 to 100,000:1 reductions



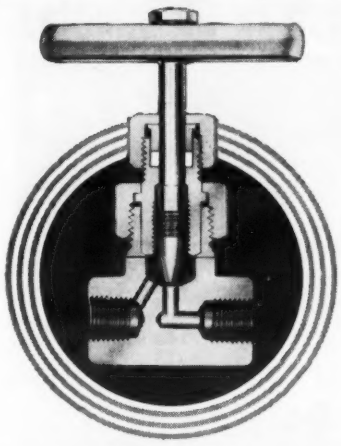
Subfractional-horsepower gearmotors and gear boxes for original equipment are now available with Spiroid right angle single, double, and triple-reduction gears. Ratios range from about 4:1 to 100,000:1. Permanently sealed, conventionally closed, or skeleton units can be designed according to application. Typical applications include office machines, appliances, and vending machines. Photo shows a 1/50-hp gearmotor at left and a 1/12-hp unit at right. • **Illinois Tool Works, Inc.**, Spiroid Div., 2501 N. Keeler Ave., Chicago 39, Ill.

For more details circle NED-552 K1 on enclosed inquiry slip

AIR-POWERED SCREWDRIVER
drives screws, nuts up to Size 8

Series 101 Thor-Nado air motor with five-blade power booster for sustained power under load drives this Thor Straight-8 air screwdriver for small screws and nuts up to Size 8. It features a Q.T. Silencer and Twin-Clutch torque control and is available in 500, 1000, 2200, and 4500-rpm speeds. Tool is offered with a choice of the Sure-Shot fastener finder for slotted-head screws, or Zip Chuck for interchangeable use of Phillips bits, magnetic bits, or socket drivers. Also available are models with "panic button" instant power reverse. Built-in Air-Gard regulator for pressure and speed control is standard. • **Thor Power Tool Co.**, 175 N. State St., Aurora, Ill.

For more details circle NED-553 K1 on enclosed inquiry slip



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Sales Offices in Principal Cities

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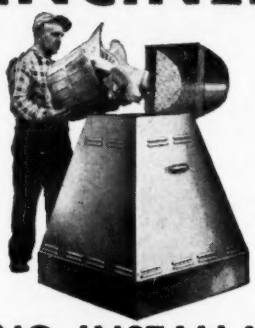

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Dept. 14 4007 Detroit Ave. Cleveland 13, Ohio

For more details circle NED-555 K1 on enclosed inquiry slip

TURNS *Every* SHAPE!

REED

This newer Reed-line Chain Wrench is a Plus-tool: It does every job you can do with a conventional pipe wrench—plus—the jobs a conventional pipe wrench can't do! Reed Chain Wrench has faster, ratchet-like action which permits screwing up or unscrewing from either side . . . without removing the wrench from the pipe. Reed Chain Wrench turns every shape as it works easily where an ordinary wrench won't work at all—close to baseboards, in tight corners and between parallel pipe lines. Reed Chain Wrench holds firmly and securely without "play" or crushing.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA, U. S. A.

For more details circle NED-556 K1 on enclosed inquiry slip

ELECTRIC HEATING UNITS
TO 1200°C

Heating units from Hevi-Duty Electric Company have these specific advantages: High temperature capacity—room temperature to 1000° C. or 1200° C., with fast heat transfer. Quick heat up — high watt density. High heat efficiency. Long operating life. Fast response to manual or automatic control. For details, write for Bulletin 5091.

HEVI-DUTY

A Division of Basic Products Corporation

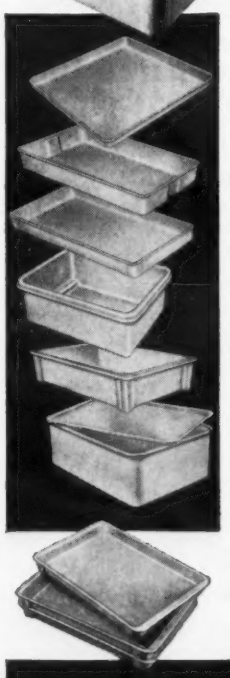
BPC *Electric and Fuel-Fired Industrial Furnaces and Ovens*

HEVI-DUTY ELECTRIC COMPANY • WATERTOWN, WISCONSIN

H-39-61

For more details circle NED-557 K1 on enclosed inquiry slip

How TOTELINE can cut your costs on parts handling



Improve your handling of small parts and make substantial economies by switching to Toteline tote boxes or trays for handling small parts. Here's how:

- Replace wooden, steel, enameled or fiberboard boxes with Toteline products — made of reinforced molded fiber glass which can't rust, leak, splinter, crack or tear. It's stronger than steel, pound for pound.
- You get a box for handling or storing parts which is light for easy lifting, stacks easily without toppling.
- Boxes and trays can be cleaned by dipping in hot water. There are no corners or crannies for dirt to lodge.
- Toteline trays and boxes have wire reinforced edges for more strength.
- You eliminate maintenance expense. No re-painting, no chipping or cracking.
- Constant tare weight.

Also available are Toteline fabricated boxes made to your exact specifications in large or small quantities. These custom made boxes have panels of molded fiber glass, up to 1/16 inch thick. Top and bottom frames and corner angles are of strong galvanized steel or aluminum. Casters, hand holes, runners, lids, compartments . . . you name it, we'll make it.

by TOTELINE

MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.

ONE OF THE MOLDED FIBER GLASS COMPANIES

World's Largest Producer of Reinforced Plastic Trays and Tote Boxes

For more details circle NED-558 K1 on enclosed inquiry slip

MINIATURE PARTS HEADER
equipped with variable speed drive

Wire diameter capacity from 0.012 to 0.070 in. is built into the Model 00 Aolid die double stroke cold header for miniature parts. Made for production of electrical contacts, optical screw blanks, and miniature rivets, its speed is varied between 150 and 300 rpm by turning a hand dial. It is built into a desk type cabinet base with tool storage drawers and work-receiving pans. A one-shot lubricating system is incorporated. Special die block and mechanism allows deep hollowing of rivet shanks in soft material. Single stroke model for heading balls up to 0.0625-in. finished size is also available. • **REM Sales Inc.**, Box 41, West Hartford, Conn.

For more details circle NED-559 K1 on enclosed inquiry slip

SWIVEL CASTERS
one-piece mounting pad and spindle

A heavy - duty, one - piece mounting pad and spindle of forged aluminum is featured by these swivel casters. Designed for heavy-duty service on trucks, casters are available separately for a wide range of applications. They have sealed, permanently-lubricated tapered roller bearings and are corrosion resistant, nonsparking, and nonmagnetic. Wheel diameters, tire materials, types of wheel bearings, and size depend upon application and load capacity desired. Casters are available with either a pedal-controlled swivel lock or wheel brake, or both as accessories. • **Neushul Co.**, 19500 S. Normandie St., Torrance, Calif.

For more details circle NED-560 K1 on enclosed inquiry slip

Shielded Arc Welding

FREE Lincoln Electric Co.—The advantages and techniques used in vapor-shielded arc welding and the new semiautomatic Innershield Squirt process, as well as details of automatic Innershield welders are covered in 12-page Bulletin 5300.1. This arc is shielded by vapor generated from ingredients contained within a tubular electrode.

For more details circle NED-561 K1 on enclosed inquiry slip

QUICK, EASY SET-UPS

for **ANGLE** or off-line **DRILLING**

Handle angle or off-line drilling jobs quickly, easily and economically with the new Commander Type "A" Multi-Angle Drill Unit. The unit is designed to permit quick attachment to a flexible shaft or an electric motor power source. A two-way cylinder is incorporated to provide spindle feed and return.

Small size and long stroke (4") make the Type "A" Multi-Angle Drill Unit ideal for a wide variety of production drilling set-ups.

Write for complete details, illustrated catalog, and name of nearest Commander Distributor.

113

Commander MFG. CO.

4220 WEST KINZIE STREET • CHICAGO 24, ILLINOIS

For more details circle NED-562 K1 on enclosed inquiry slip

Webster DIRECT READING HYDRAULIC TYPE FORCE GAUGES

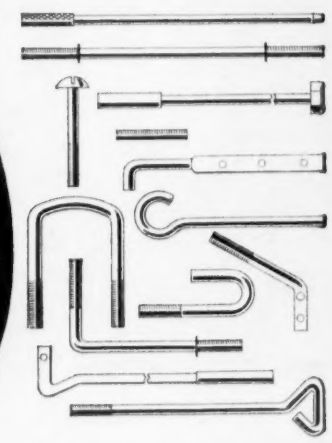
Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.

Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

For more details circle NED-563 K1 on enclosed inquiry slip

Complete Facilities for the manufacture of Special Headed and Threaded fasteners / from 1" to 60" in length in short or long runs



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HOOK BOLTS
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HEADING

Send drawings or blueprints for quotes and literature.

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For more details circle NED-564 K1 on enclosed inquiry slip

NEW and NEEDED!

EAGLE SAFETY PLUNGER CANS

safe cleaning with flammable liquids . . . pressure forces measured fluid to dampen swab . . . FM approved . . . 1, 2 qt., 1 gal.

EAGLE SAFETY BENCH CANS

for cleaning small parts safely, quickly . . . approved by Factory Mutual . . . 1, 2 qt., 2 gal. capacities.

EAGLE Style I SAFETY CANS

approved by Underwriters Laboratories and FM . . . safe for handling all flammable liquids . . . 1, 2 qt., 1 gal. with trigger handle; 2½, 5 gal. with free-swing handle.

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Write for free catalog showing Complete Eagle Line . . . Eagle products are also available in Canada

EAGLE MANUFACTURING CO., Wellsburg, W. Va.

Serving the Trade Since 1894

For more details circle NED-565 K1 on enclosed inquiry slip

Cut Scrap Handling Costs in ½ !

With Roura Hoppers on the job—you'll see as much as a 50% cut in scrap and bulk handling costs. One man will do the work of two—in less time. Roura Hoppers are the easy, safe and efficient way to handle hot or cold, wet or dry bulk . . . such things as scrap metal, glass, small castings, cinders, punch press parts, hot forgings or cullet.

Thousands of plants across the country are relying on their Roura Hoppers. Any lift truck may be used to move a loaded hopper. A simple latch lets it dump and go upright again automatically. For more information, phone us collect at TOwnsend 8-3560 or use coupon.

Specifications: *Eight sizes, ½ to 4-yard capacities. Constructed of 3/16" steel plate with continuous arc-welded seams. Also available in heavier plate, galvanized, stainless or aluminum. Mounted on skids or choice of wheels. Standard models shipped from stock.*

WANT MORE DETAILS?
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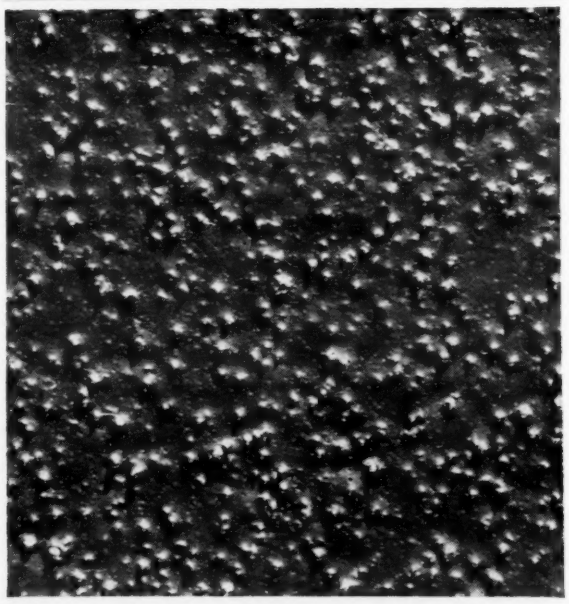
ROURA IRON WORKS, INC.
1415 Woodland Ave., Detroit 11, Mich.

ROURA *Self-Dumping* **HOPPER**

For more details circle NED-568 K1 on enclosed inquiry slip



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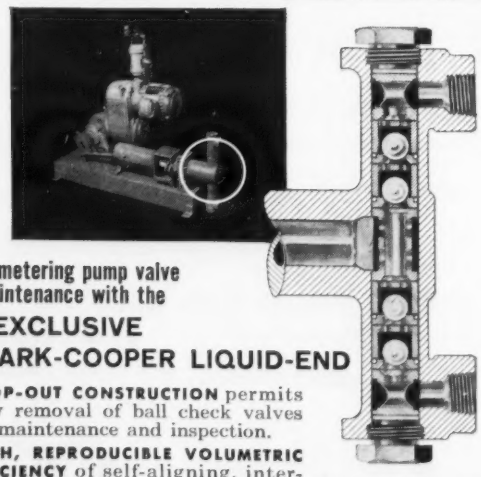
For more details circle NED-569 K1 on enclosed inquiry slip



Cut metering pump valve maintenance with the EXCLUSIVE CLARK-COOPER LIQUID-END

DROP-OUT CONSTRUCTION permits easy removal of ball check valves for maintenance and inspection.

HIGH, REPRODUCIBLE VOLUMETRIC EFFICIENCY of self-aligning, interchangeable, self-cleaning valve units is assured. Closure is consistently firm and effective.

FACTORY ACCURACY is guaranteed when check seats or balls must be replaced in the field. A Clark-Cooper exclusive.

LOW N.P.S.H. REQUIREMENTS for liquids near boiling point or with high vapor pressure.

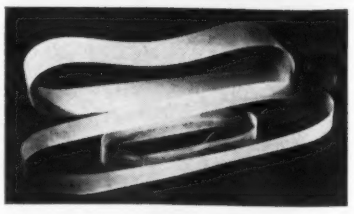
Clark-Cooper Metering Pumps, either diaphragm or plunger types, are available in a wide range of sizes to meet your specific requirements.

Available in a variety of materials for any corrosive application

CLARK-COOPER DIVISION
FREDERIC B. STEVENS, INC.
Palmyra, New Jersey
REPRESENTATIVES IN ALL PRINCIPAL CITIES

For more details circle NED-570 K1 on enclosed inquiry slip

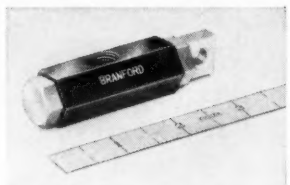
ENDLESS PLASTIC BELTS have smooth-running splices



Strong, precision, smooth-running, flexible splices in line of oriented polyester belts for power transmission, conveying, and instrumentation are produced by an ultrasonic process without heat or adhesives. Joint strength is 90 to 100 per cent of the original material. DuPont Mylar belts are made in ¼ to 60-in. widths and thicknesses from 1 to 10 mils or more. Cronar belts with standard perforations are made in widths from 16 to 70 mm and thicknesses of 4 or 7.5 mils. Endless belts can also be formed from customer supplied strips having special perforations, magnetic oxide coatings, photographic emulsions, or other treatments. Fatigue resistance, high strength, heat resistance, dimensional stability, nonaging, flexibility, and chemical resistance are among the features of these belts. • **International Ultrasonics Inc.**, 331 Centennial Ave., Cranford, N. J.

For more details circle NED-571 K1 on enclosed inquiry slip

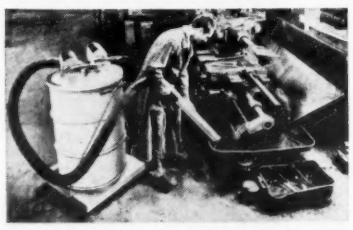
PNEUMATIC VIBRATOR midget unit operates on 10-80 psi



High frequency at low air consumption is provided by Model 7803 Vibrajust midget pneumatic vibrator which is 3 in. long and weighs only 5 oz. Unit has a reciprocating piston with mass of 12.5 grams, 0.358-in. piston bore, and stroke of 0.094 in. It operates on 10 to 80 psi line pressure at between 6000 and 18,000 vibrations per minute. For low noise level, 10 to 20 psi line pressure is recommended. Unit has plugless air passages. A dustproof model is available, as are head attachments for special requirements. Price is $12.50 each. • **Branford Co.**, 130 Glen St., New Britain, Conn.

For more details circle NED-572 K1 on enclosed inquiry slip

AIR OPERATED VACUUM CLEANER picks up liquids, sludge, and dirt



Using up to a 5-in. diameter hose, this compressed air powered industrial vacuum cleaner will clean out sumps and pits, and recover spilled liquids at rates up to 1 gps. It will handle heavy liquids or sludges as well as steel or wood chips, sawdust, dirt, and metal objects. Because it is air powered it is usable in hazardous areas. Special attachments are available for wall and boiler cleaning. The Air Vac lid assembly is easily shifted from full to empty drums in seconds. A mechanical shut-off prevents overflow of the drum. A dolly with large casters and retractable handle adds mobility. • **American Cleaning Equipment Corp.**, 5024 N. Rose St., Schiller Park, Ill.

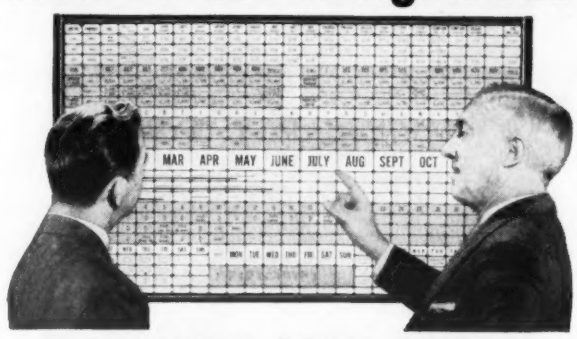
For more details circle NED-573 K1 on enclosed inquiry slip

ELECTRIC TRACTOR for short runs or long hauls

One of two 12-v connected-in-parallel batteries supplies the Model TSG 12-24 electric tractor with 12-v power through two speeds set for a comfortable walking pace. For rider use, the operator stands on a foot button which connects the two batteries in series to obtain 24 v and a third speed of up to 6.25 mph, without load. At rated 10,000-lb rolling capacity, speed is 3.25 mph. Ultimate drawbar pull is 550 lb. With the steering handle, the operator controls forward and reverse travel speed, braking, and steering. Trailers are uncoupled by a foot release lever. • **Barrett Cravens Co.**, 628 Dundee Rd., Northbrook, Ill.

For more details circle NED-574 K1 on enclosed inquiry slip

How To Get Things Done



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Gives you a Graphic Picture of your operations, spot-lighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

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GRAPHIC SYSTEMS, Yanceyville, North Carolina

For more details circle NED-575 K1 on enclosed inquiry slip

NO OTHER TOOL MOVES METAL FASTER, CHEAPER

Arcair process for metal removal

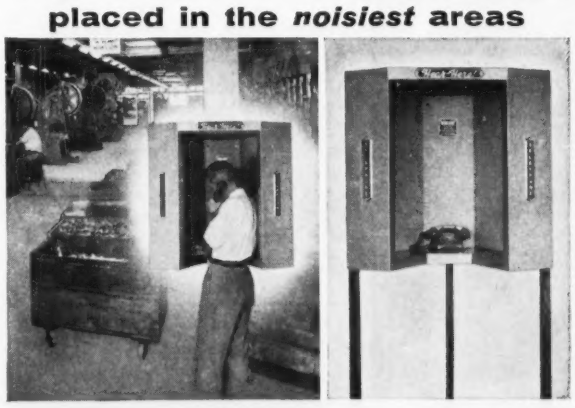
You won't believe it until you see it! Arcair Torch cuts, gouges, grooves, bevels or flushes off more metal . . . any metal . . . in less time for less money. Gives you cleaner, better jobs, yet is inexpensive to install and operate, easy to use. Arcair works with any standard arc welding machine on ordinary shop air. Your men learn to use it in 15 minutes.

Ask for a demonstration soon or write for complete information.

Arcair®
Box 406, Dept. 49
Lancaster, Ohio

For more details circle NED-576 K1 on enclosed inquiry slip

Talk in the QUIET environment of a BURGESS-MANNING ACOUSTI·BOOTH placed in the *noisiest* areas



outside sounds HUSH as you walk in . . . no rush to distant shop office for important phone calls

The No. 45 above achieves the utmost in acoustical efficiency. No other booth approaches its sound absorbing performance. Open construction allows full ventilation—no hot or stuffy feeling—no stale odors—no doors to maintain. Available for wall mounting, or free-standing on steel legs.

Write for ACOUSTI-BOOTH catalog today showing No. 45 and many other models.

ARCHITECTURAL PRODUCTS DIVISION
BURGESS-MANNING COMPANY
733 East Park Ave.
Libertyville, Ill.

For more details circle NED-577 K1 on enclosed inquiry slip

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NELSON® STUD WELDING

- REDUCE COSTS, INCREASE PRODUCTION
- END-WELD STUDS TO STEEL OR ALUMINUM — FAST
- ELIMINATE DRILLING, TAPPING, HAND WELDING
- IMPROVE PRODUCT DESIGN, QUALITY
- HANDLES STEEL STUDS UP TO 1-INCH DIAMETER

Send for Nelson Stud Welding "Design Manual"

NELSON STUD WELDING
DIVISION OF GREGORY INDUSTRIES, INC.
DEPT. 102-22 LORAIN, OHIO

GREGORY INDUSTRIES

For more details circle NED-578 K1 on enclosed inquiry slip

NEW & EXCLUSIVE with McCord Model 55 Lubricator

SAFE-LEVEL SIGHT FEED

That's right! The finest lubricator on the market today has been refined to give you even *more* for your money. Now, the McCord Model 55 Lubricator comes equipped with new, exclusive Safe-Level Sight Feed with these outstanding benefits for you...safe, sure warning of malfunction... quicker priming . . . better feed regulation . . . extreme accuracy . . . improved reliability. *IMPORTANT:* Safe-Level Sight Feed can also be added to existing Model 55's.

For COMPLETE details on this important new development write today to:

McCORD CORPORATION
Lubricator Division • Detroit 11, Michigan

For more details circle NED-579 K1 on enclosed inquiry slip

GREATER GRINDING EFFICIENCY ...LOWER "PER UNIT" COSTS

ALPHA
GRINDING WHEELS

Designed for fast action wherever quick metal removal is required. Their longer cutting life means more metal removed per disc wheel — reducing "per unit" production costs. And, because of this more efficient cutting action, Alpha disc wheels do not cause operator fatigue.

Made from abrasive grain and resinoid bond, Alpha disc wheels are strong and durable. Triple reinforcement provides greater safety while in operation.

Alpha grinding disc wheels are manufactured in 7 and 9 inch diameters in a complete range of grain sizes from 14 to 120.

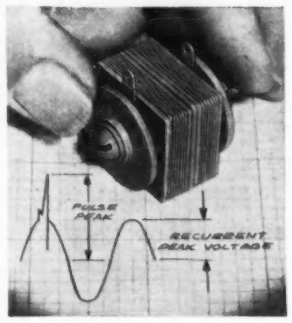
Write today for full information.

Atlantic Abrasive Corp.
A DIVISION OF ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

STRAIGHT WHEELS • CYLINDER WHEELS • CUP WHEELS
CONES • PLUGS • MOUNTED WHEELS AND POINTS

For more details circle NED-580 K1 on enclosed inquiry slip

VOLTAGE SURGE PROTECTORS
handle 25 to 500 v rms



Use of selenium Klip-Sel transient voltage suppressors in the protection of silicon power rectifier and controlled rectifier circuits assures high circuit reliability and low circuit cost. These devices limit transients to a known value. They make possible the use of rectifiers with lower peak reverse voltage ratios. Available in polarized or nonpolarized configurations, in stacked or cartridge assemblies, they have rms input voltage ratings from 25 to 500 v, maximum leakage current or 12 ma, and top operating temperature of 100° C. • **International Rectifier Corp.**, 233 Kansas St., El Segundo, Calif.

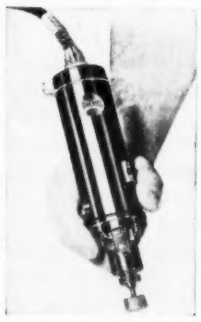
For more details circle NED-581 K1 on enclosed inquiry slip

PLASTIC CLEANING PAD
scrubs wood, metal, glass, linoleum

Used with detergent or scouring powder and hot water, the Dobie all-purpose cleaning pad will clean linoleum, wood, metal, glass, and stainless steel surfaces. The 3½ x 5½-in. pad has a knitted mesh covering of DuPont Mylar and will not splinter, shred, or rust. Drinking fountains, walls and woodwork, air ducts, hand rails, windows, and waste baskets are typical of items which can be cleaned effectively with the pliable, easy-to-handle pad. • **Brillo Mfg. Co.**, 60 John St., Brooklyn 1, N. Y.

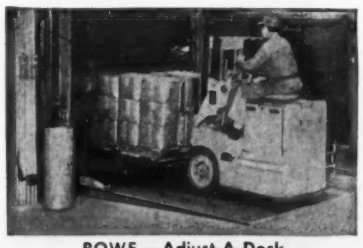
For more details circle NED-582 K1 on enclosed inquiry slip

ELECTRIC HAND GRINDER
27,000-rpm unit polishes, deburrs



Industrially rated Model 3 electric hand grinder develops 27,000 rpm and sustains high torque for polishing and grinding dies and molds, production deburring, and general tool and die room use. Unit has 50 per cent more power than earlier Model 2, runs cooler, and has a collet capacity of 1/16, 3/32, and ⅛ in. to accommodate all standard wheels and burrs. Motor is housed in Bakelite and has a 3-wire grounded cord. Tool weighs only 18 oz. • **Dremel Mfg. Co.**, 2400 18th St., Racine, Wis.

For more details circle NED-583 K1 on enclosed inquiry slip



ROWE — Adjust-A-Dock

ROWE — Adjust-A-Truck

ROWE Double leaf crossover bridge

Select the Best... from ROWE's complete line of

- Dock and truck leveling devices
- Crossover bridges

Over 80 standard electro-hydraulic and air-oil powered dock level devices with 10,000 or 20,000 lbs. capacities and 6 mechanical, truck actuated units with 20,000 lbs. capacity are now available.

Electro-hydraulic truck levelers installed where space is limited, available in 40,000 lb. capacity.

Crossover bascule type bridge electro-hydraulic operated in either double or single leaf units. Capacities to customers specifications.

ROWE METHODS, inc.
2534-E Detroit Ave. • Cleveland 13, Ohio

WRITE FOR DETAILED LITERATURE

For more details circle NED-584 K1 on enclosed inquiry slip

SUDDEN SLIPPERINESS

A mere press of the button gives you coefficients of friction as low as .07! New RULON® SPRAY also features:

- Instant drying
- Non-oily, non-gummy surfaces
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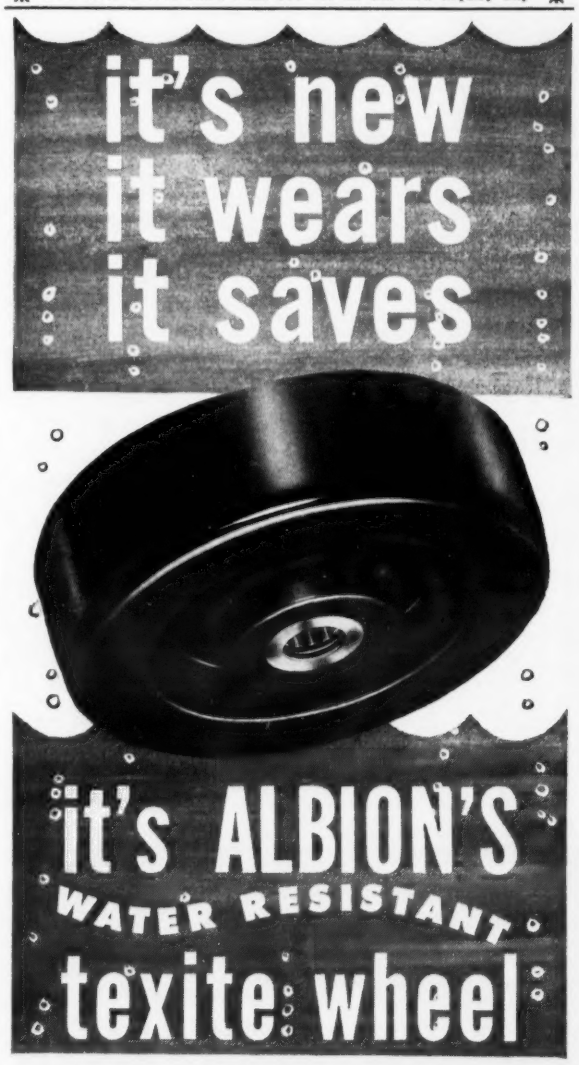
- Thermal stability (−400 to +500°F.)
- Chemical inertness
- Insolubility

Applications unlimited! Lubricates machine parts and assemblies, bearings, belts, gears, conveyors, wood, leather, plastics, etc.
Excellent mold release. **Distributor inquiries invited.**

for RULON SPRAY data write **DIXON**

Dixon Corporation, 108 Burnside St., Bristol, R. I.
Dixon offers RULON in rods, tape, sheet, tubing and in molded and machined parts.

For more details circle NED-585 K1 on enclosed inquiry slip



Specially molded for applications requiring unusual water or chemical resistance...plus the usual quiet, long-wearing, easy rolling-floor protective characteristics of Albion Texite Wheels.

These tough, high capacity wheels are immediately available from stock in *any* practical size from 3¼" to 16" diameters, tread widths from 1½" to 4" and capacities up to 8000 pounds. Plain, roller or sealed bearings. Price? Exactly the same as comparable models in Albion's *regular* Texite wheel line!

Specify "Low Water Absorption Texite Wheels" on your next caster or wheel order . . . and save.

FREE CATALOG—Albion's big, new 44-page catalog of Industrial Casters and Wheels is ready for your use and convenience. Write for your personal copy—Today!

ALBION INDUSTRIES INC.
ALBION, MICHIGAN

For more details circle NED-586 K1 on enclosed inquiry slip

If you transfer, or dispense lubricants, get this

FREE ALEMITE POWER EQUIPMENT CATALOG!

Alemite has everything you need for fast, clean, economical lubricant handling. Discover how you can save materials and man-hours with these dependable, high-quality Alemite Industrial products: *air and electric drum pumps, mobile lubricators, control valves, reels and hose assemblies, airline accessories.*

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Symbol of SW Excellence

ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. GG-101, 1850 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-587 K1 on enclosed inquiry slip

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RADIANT ENVIRONMENT

Electric Infrared radiant heating provides comfortable environment for areas with large air movements, for occasional heating of areas, for localized and supplementary heating . . . at lower equipment installation, maintenance and operating cost.

Infrared radiant heating is instantaneous, silent, clean, healthy and safe. There are no fumes, dirt or odors. Send for detailed literature describing the advantages of Fostoria Infrared Radiant Heating Equipment.

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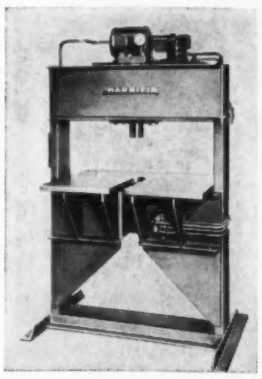
EICO®

3300 Northern Boulevard, Long Island City 1, New York

Export Dept., Roburn Agencies Inc., 431 Greenwich St., New York 13, N. Y.

For more details circle NED-589 K1 on enclosed inquiry slip

HYDRAULIC PRESSES
25, 50, 75, and 100-ton capacities

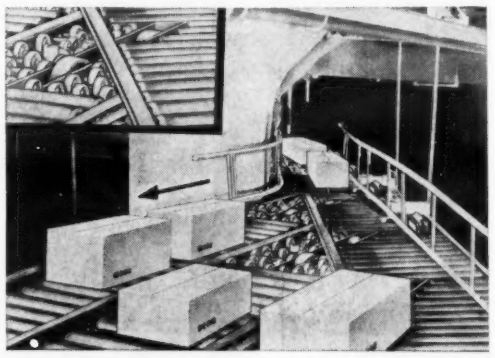


Line of hydraulic ram type or guided platen industrial utility presses is offered with a choice of standard frames, working forces, speeds, circuits, controls, and power sources. Special jobs can be accommodated by selecting proper combination of standard components. The Series I presses have structural steel frames meeting NMTBA deflection standards. Both ram and guided platen models are offered in 25, 50, 75, and 100-ton models with 24 x 24-in. or 36 x 24-in. die areas. Seven power sources provide a wide range of ram advance, feed, and return speeds. Seven electrical control systems, as well as manual control and Sensitive Pressure controls, are also available. ● **Hannifin Co.**, Dept. 128, 501 S. Wolf Rd., Des Plaines, Ill.

For more details circle NED-590 K1 on enclosed inquiry slip

CONVEYOR DIVERTER
low-shock device operates at conveyor speeds up to 300 fpm

Closely spaced cartons or containers are automatically diverted from a main conveyor onto predetermined spur accumulator lines by the low-shock Atronic Hi-

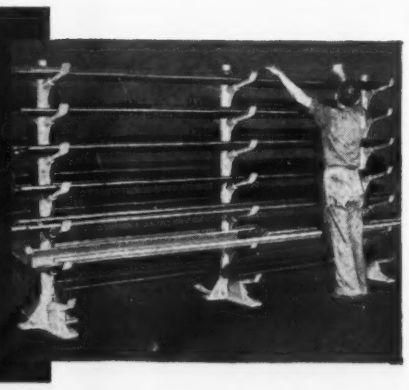


Speed Diverter. Cartons with glass or other fragile contents are diverted at conveyor speeds up to 300 fpm without danger of breakage.

Divert mechanism consists of two continuously rotating rubber-tire wheels, one of which raises and lowers, and a bank of small metal roller wheels. All wheels operate in the same direction as the divert conveyor—about 30 degrees to main conveyor. Divert action at a predetermined divert station is accomplished by any one of the Atronic routing systems, which identify different station codes on the carton and actuate the proper diverter at the appropriate moment. ● **General Atronics Corp.**, Atronic Products Div., Union Hill, West Conshohocken, Pa.

For more details circle NED-591 K1 on enclosed inquiry slip

SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane—using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

For more details circle NED-592 K1 on enclosed inquiry slip

CHECK THIS

4-WAY SAVING WITH Work-O-Matic* Boxes!

GET *all* the facts about Work-O-Matic Drop-Bottom Boxes and Positioning Stands—the amazing new work-and-time savers. Write The Union Metal Manufacturing Company, Canton 5, Ohio.

*Registered Trade Mark

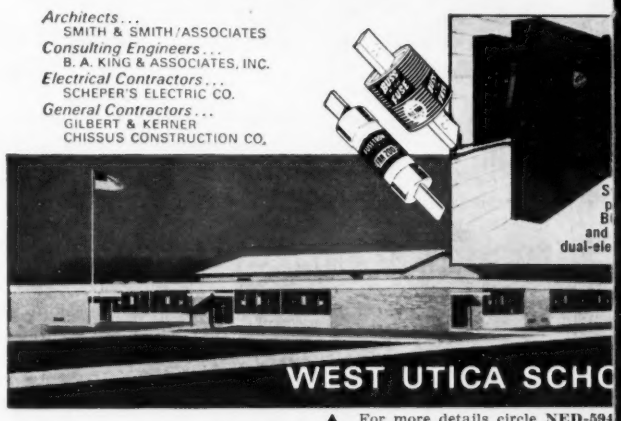
UNION METAL
Materials Handling Equipment

For more details circle NED-59

Electrical Protection goes MODERN with BUSS Fuses

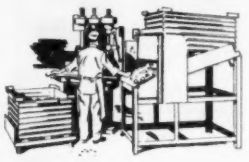
in All-Electr

Architects . . . SMITH & SMITH/ASSOCIATES
Consulting Engineers . . . B. A. KING & ASSOCIATES, INC.
Electrical Contractors . . . SCHEPER'S ELECTRIC CO.
General Contractors . . . GILBERT & KERNER CHISSUS CONSTRUCTION CO.



For more details circle NED-594

For more details circle NED-595

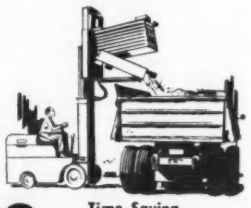


1 POSITIONING MATERIALS

A sure way to cut costs today is work-level positioning of parts-in-process. Work-O-Matic Drop-Bottom Boxes, on Union Metal Positioning Stands, effectively accomplish this. And a reservoir supplies the operator while empty boxes are replaced. Studies prove this 2-way advantage increases production up to 50%!

2 Easier HORIZONTAL MATERIAL MOVEMENT

Work-O-Matic Multi-Duty Boxes are performing all the functions of the best fork tiering skid boxes. In addition, Work-O-Matics allow 5-way fork entry for faster, easier handling in cramped quarters in both the factory and storage areas.



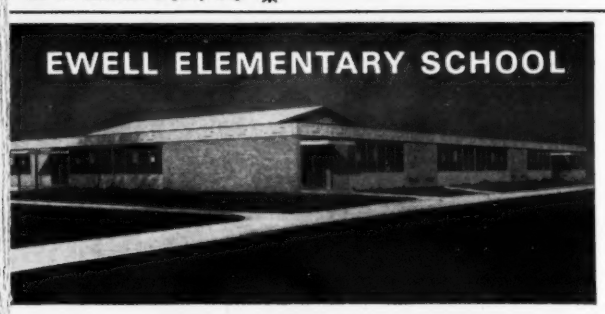
3 Time-Saving MECHANICAL DUMPING

The superior drop-bottom feature of the Work-O-Matic Box, keeps the dumping point constant at any fork height. This permits accurate dumping with 100% control of spillage. Also, Work-O-Matics eliminate the necessity for manual removal of material, releasing labor for more skilled work.

4 Space-Saving STORAGE

Four Work-O-Matic Boxes can be tiered in the space usually required for *three* ordinary boxes, providing ⅓ more storage in the same floor space. Thus more parts or materials may be removed from the factory area and stored, ready for the next operation or shipment. Space is conserved in the factory and *fully* utilized in the storage area.

K1 on enclosed inquiry slip



ric Schools

Utica, Michigan

Electricity heats, lights, pumps water, cooks, and operates all motors in two new Utica schools. The only other utility used is the telephone.

The complete use of electricity puts special emphasis on using the safest, most modern protective devices throughout electrical system.

In each school, BUSS Hi-Cap fuses are installed in the main switchboard to provide the necessary high interrupting capacity—and to give needed current-limitation to protect circuits and equipment.

For the safest short-circuit and overload protection . . . and to prevent needless outages, FUSETRON dual-element fuses are used in the feeders and branch circuits.

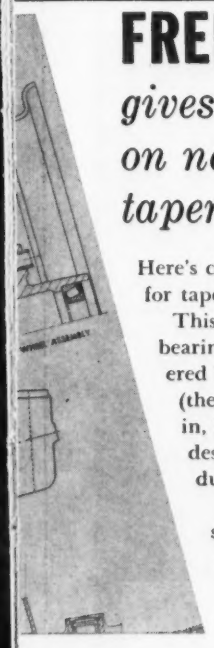
For more information, write for . . .
Bulletin FIS on Fusetron fuses.
Bulletin HCS on BUSS Hi-Cap fuses.

BUSSMANN MFG. DIVISION, *McGraw-Edison Co.,* **St. Louis 7, Mo.**

K1 on enclosed inquiry slip

FREE BOOKLET

gives full details on new seal for tapered roller bearings



Here's complete data on a new single-piece seal for tapered roller bearings—the SKF TySeal.

This double-lipped seal permits fitting sealed bearings into the same space as standard tapered bearings. Both lips contact the cup I.D. (the best sealing surface) to keep lubricants in, keep out dust and dirt. And its special design minimizes danger of seal damage during bearing installation.

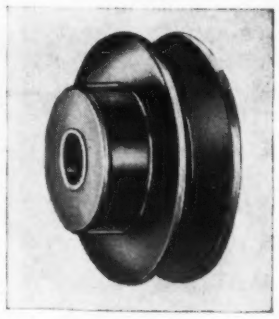
But get full details. The FREE booklet shows sizes available, features, typical applications (drawn to full scale for easy tracing). Just send the inquiry card today. 7850

SKF MOTION ENGINEERING

Advanced ball and roller bearing technology

K1 on enclosed inquiry slip

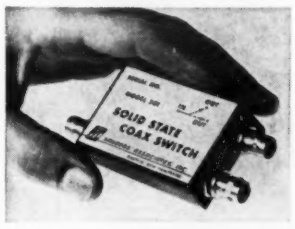
BRONZE BUSHED IDLERS
V-pulley type in 3, 4, 5-in. sizes



This bronze bushed V-pulley idler is offered in four sizes with diameters of 3, 4, and 5 in. and over-all width of 1½ in. Idlers are used with single groove A and B section V-belts. They are made of cast iron and have a 1-in. bore. Other items in the bronze bushed idler line include flanged pulley units for use with V-belts, flat belts, and timing belt drives and sprocket idlers for use with roller chain drives. ● **Brewer Machine & Gear Co.,** 1441 N. Second St., St. Louis 6, Mo.

For more details circle **NED-596 K1** on enclosed inquiry slip

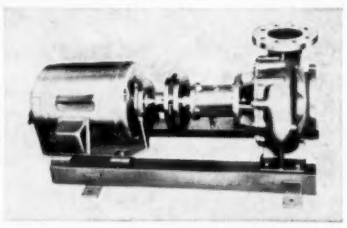
COAXIAL SWITCH
high speed unit weighs under 2½ oz



Single-pole double-throw switching action over a 0.1 to 400-megacycle frequency range is provided by this wide band coaxial switch. Switching speed is 50 nanoseconds. At 200 megacycles the open circuit attenuation is greater than 55 db and insertion loss is under 1 db. Typical uses for the ¾ x 1¾ x 3¾-in. unit are in multiplexing, suppression of unwanted signals, broadband pulse modulation, and directing VHF signals into different channels for different system modes of operation. Temperature range is −65 to 70° F and weight is under 2½ oz. ● **Sanders Associates, Inc.,** 95 Canal St., Nashua, N. H.

For more details circle **NED-597 K1** on enclosed inquiry slip

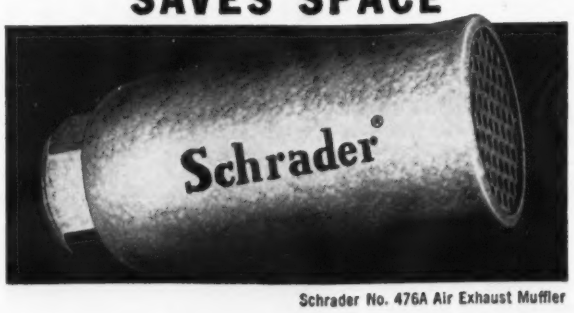
CENTRIFUGAL PUMP
11 models up to 1000 gpm capacity



Sleeve bearing forced feed lubrication assures long bearing life in the B9 centrifugal pump, designed for quiet handling of chilled or hot water in comfort conditioning systems. A self-aligning coupling connects sleeve bearing motor to pump, eliminating the need for on-the-job realignment. Fabricated angle iron base facilitates cleaning in and around the pump. Eleven models range from 1 through 10 hp, with capacities up to 1000 gpm and heads to 80 ft. ● **Dunham-Bush, Inc.,** 179 South St., West Hartford 10, Conn.

For more details circle **NED-598 K1** on enclosed inquiry slip

NEW! MINIATURIZED SCHRADER AIR EXHAUST MUFFLER SAVES SPACE



Schrader No. 476A Air Exhaust Muffler

Compact . . . sturdy . . . especially designed for use in cramped areas.

Reduces noise to a whisper. Eliminates need to pipe harsh, disturbing air exhaust to outside of building.

Improves plant working conditions . . . ups production . . . by reducing noise-induced fatigue.

Size: Over-all length, 3¼". Diameter, 1 7/16". Has ⅜" N.P.T. (Specify #476A Schrader Air Exhaust Muffler —your Schrader Distributor has it now!)

Schrader a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

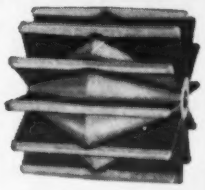
QUALITY AIR CONTROL PRODUCTS

For more details circle **NED-599 K1** on enclosed inquiry slip

DESIGNED TO CUT BELT COSTS

SPROUT-WALDRON

BELT-SAVER PULLEYS



Write for Bulletin 33-C

The life of conveying belts can be increased from 50% to 400% with unique Belt-Saver Pulleys in installations handling sharp lumps and abrasive materials. Such materials slide away from the pulleys because of the special cone and wing design so belts cannot be damaged. For applications ranging from the handling of stone and gravel to wood chips and foundry sand, Belt-Savers are big money savers.

Sprout-Waldron also offers a full line of cast-iron pulleys for transmission and conveyer use that provide top economies. Write for details.

IN/500

SPROUT-WALDRON
Manufacturing Engineers Since 1866
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

For more details circle **NED-600 K1** on enclosed inquiry slip

Morse Eberhardt-Denver "C" flanged separable

Gearmotors

Sold 2 ways: with electric motor or without!

Here's flexibility! Buy this Morse E-D Gearmotor right off the shelf complete with Nema electric motor or without. You can use your own motor. Versatile—simple to change drive ratio. Mount it in any position.

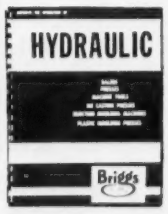
This "C" flanged type reducer offers capacities from 1/12 hp to 2 hp and gear ratios from 5:1 to 60:1.

NEW—FREE Morse E-D catalog of "C" flange gearmotors. Write Morse Chain Company, Dept. 19-101, A Borg-Warner Industry, Ithaca, N.Y. Export Sales: Borg-Warner International, Chicago, Ill. In Canada: Morse Chain of Canada, Ltd., Simcoe, Ontario.

MORSE
A BORG-WARNER INDUSTRY

For more details circle **NED-601 K1** on enclosed inquiry slip

GRATIS . . . a 12 page file size HYDRAULIC CIRCUIT and FLUID MANUAL for almost every type and size hydraulic installation



Here is a big 8½" x 11", file size, 12 page fully illustrated manual. It's brimful of technical data and drawings that every designer and engineer will want to read or keep for ready reference. Write for your copy. No obligation.

Briggs

HYDRAULIC FLUID FILTERS

THE BRIGGS FILTRATION CO. DEPT. 400
WASHINGTON 16, D. C.

YES! At no cost or obligation, send me your Hydraulic Manual.

Name .....

Company .....

Address .....

For more details circle **NED-602 K1** on enclosed inquiry slip

TYGON®
means longer lasting protection against acid or alkali attack

If acid or alkali fumes make maintenance painting a never-ending headache, it's time to switch to Tygon. For more than twenty years, these famous specialty coatings have been protecting chemical plants everywhere. Resist acids, alkalies, alcohol, oils, greases. Apply by spray or brush. Air dries quickly.

164-G

Write for this Manual

Bulletin 760 tells where and how to use Tygon.

Plastics & Synthetics Division **U. S. STONEWARE**
AKRON 9, OHIO

▲ For more details circle **NED-604 K1** on enclosed inquiry slip ▲

Power Control Products presents . . .

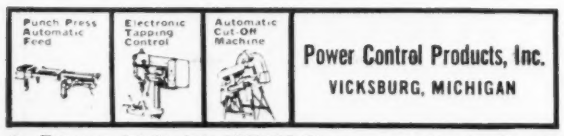
NEW AUTOMATIC PUNCH PRESS FEEDER

Converts hand presses to automatic production

Gets operators out from under the presses and steps up production 2 to 3 times hand feeding rates, *yet costs less than $700!*

Quick set-up, portable, operates "push" or can be made to "pull." Feed strokes ¼" to 12"—up to 250 short strokes per min. Tolerances to .002". Handles coil, or strip stock widths to 24", thickness to 11 Ga. Feeds most materials up to 2½ lbs. per lineal foot. Write for full details on this remarkable new machine.

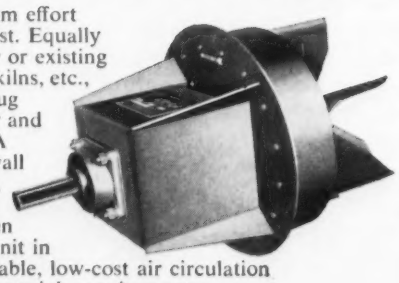
PCP AUTOMATIC DEVICES



Power Control Products, Inc.
VICKSBURG, MICHIGAN

▲ For more details circle **NED-605 K1** on enclosed inquiry slip ▲

dependable, continuous air-movement in temperatures up to 2000° F.
WITHOUT DUCTWORK!



. . . with minimum effort and minimum cost. Equally adaptable to new or existing furnaces, ovens, kilns, etc., Thermal-Aire Plug Units are quickly and easily installed. A hole in furnace wall to receive the fan wheel is the only requirement. Then simply bolt the unit in place for dependable, low-cost air circulation . . . matched to *your* job requirements.

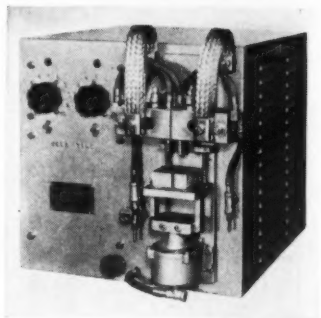
Write today for Bulletin 960

Thermal·aire plug units

Garden City Fan & Blower Co., 835 N. Eighth St., Niles, Mich.

▲ For more details circle **NED-606 K1** on enclosed inquiry slip ▲

WELDING POWER PACK
for rapid sequence spot welding



Model 60-T power pack is designed for high production multiple spot welding of small weldments. Suited for automatic feed units, it is composed of two or more dependent water-cooled transformers which afford single-cycle operation of one or more spots in rapid sequence. Its air-actuated timing controls have 100-amp contactors and can operate the transformers in single sequence or in pairs. Build-up of welding tip pressure triggers the first timer which in turn triggers the second one, and so on. Power supply required is 220-250 v, 60 cycles, single-phase ac. Maximum output is 10 kva per transformer. Welding heads are mounted on the heavy duty aluminum front panel. The 20 x 20 x 20-in. housing is louvered 12-gage steel. • **I. N. C. Inc.**, Ampower Products Div., 10207 S. Ridgeland Ave., Chicago Ridge, Ill.

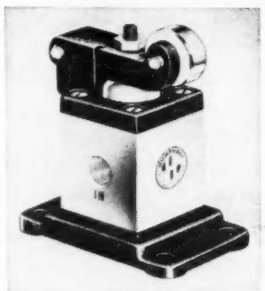
▲ For more details circle **NED-607 K1** on enclosed inquiry slip ▲

ROTARY WIRE STRIPPER
is hand-held flexible shaft tool

Extruded or wrapped insulations are stripped from electric wires and cables readily by this Model 79 swing blade rotary wire stripper. It will not nick the conductor, and it leaves stranded conductors firmly twisted for termination. This tool has a ball bearing hand piece and a 36-in. flexible shaft. • **Carpenter Mfg. Co.**, Box 217, DeWitt 14, N. Y.

▲ For more details circle **NED-608 K1** on enclosed inquiry slip ▲

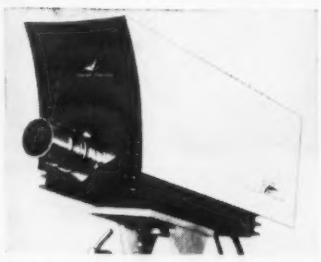
¼-IN. VALVES
for two or three-way operation



Seven models comprise line of ¼-in. square valves for either two-way or three-way operation. Square body allows actuator arm to be mounted in any one of four 90-degree positions. Tenzaloy bases in bottom and side mounting styles hold valves perpendicular or parallel to mounting surface. Manually-operated units are supplied with vertical-lever, push-button, palm-button, or finger-tip actuators. Mechanically-operated models with cycling speeds up to 30,000 per hour have ball-bearing or roller-arm cams. Actuator arms are also of self-hardening Tenzaloy. • **General Gas Light Co.**, Humphrey Products Div., 202-12 N. Park St., Kalamazoo, Mich.

▲ For more details circle **NED-609 K1** on enclosed inquiry slip ▲

CLOSED-CIRCUIT TV SYSTEM
functions in any weather condition



The completely weathertight Hawk 401 closed-circuit television system can be installed in exposed, dusty, hot or cold, and inaccessible locations. In endurance tests, system operated perfectly for more than 4500 hr through ambient temperatures from −22 to 131° F, more than 30 rainstorms, winds up to 40 mph, and four snowfalls, one of which completely buried the camera. System has horizontal resolution of 600 lines at center. A 525-line vertical interlaced scan is available at extra cost. Unit weighs 23 lb, measures 19½ x 7 1/16 x 5 9/16 in., uses any standard 16-mm C-mount lens, and operates on 110 v ac. Metal cabinet is completely gasketed. • **Diamond Power Specialty Corp.**, Diamond Electronics, Box 415, Lancaster, Ohio.

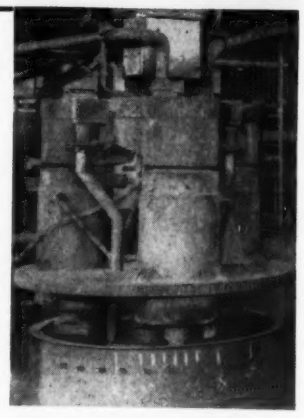
▲ For more details circle **NED-610 K1** on enclosed inquiry slip ▲

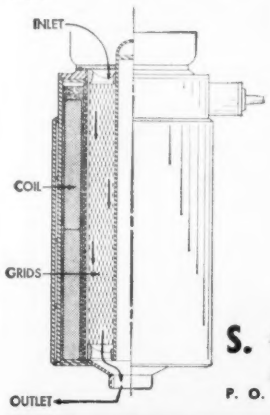
RECLAIM
Extra Values with

FERROFILTER®

MAGNETIC SEPARATORS

One of 4 automatically cycled batteries of 3 FERROFILTERS each, specially designed for Union Minere's Kipushi Mine at Katanga in the Congo.





This customer reclaims sufficient quantities of germanium from copper and zinc concentrate to make recovery by FERROFILTERS very profitable. If you have a similar recovery problem or require the removal of magnetic particles from suspension in slurries, investigate the FERROFILTER method.

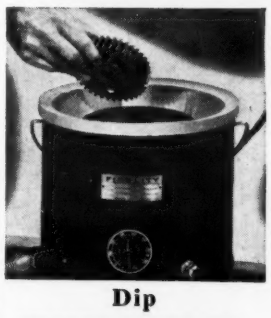
Send for Bulletin EM

S. G. FRANTZ CO., Inc.
5610 Kline Ave. at Brunswick Pike
P. O. Box 1138 Trenton 6, N. J.

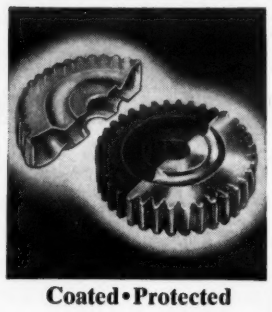
▲ For more details circle **NED-611 K1** on enclosed inquiry slip ▲

HOT MELT PLASTIC COATINGS
for GEARS • TOOLS • PRECISION PARTS

BEFORE SECONDS AFTER



Dip

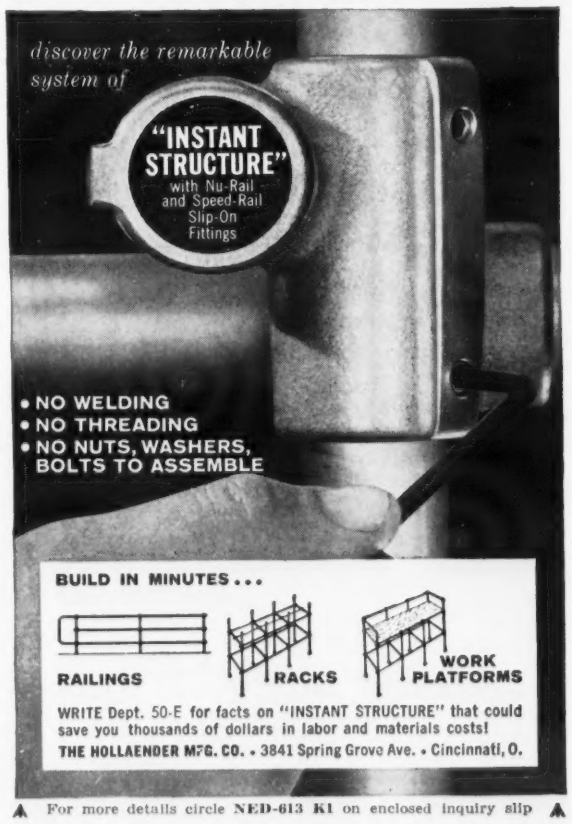


Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
478 Frelinghuysen Avenue, Newark 5, N. J.

▲ For more details circle **NED-612 K1** on enclosed inquiry slip ▲



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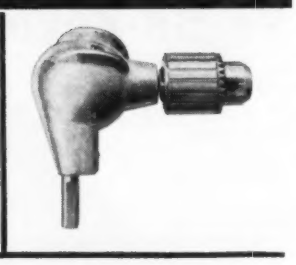
DON'T BE A STONE-AGER IN THE 60'S



Tight spots occur on every job. When they do . . . and the going is tough . . . a "Grips Rite" Angle Head is worth its weight in dinosaur teeth! Fits your ½" electric drills—lets you work between 12" centers. Design features include specially hand-contoured for comfort, 2-to-1 gear reduction for maximum control, 3 flats on shank shaft for non-slip chucking.

GRIPS RITE ANGLE HEAD **$34.75**
W/key-type chuck

Ask your tool jobber for information on fully-guaranteed Parco tools—or write

Price & Rutzebeck
P. O. Box 30 • Hayward, California

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ROUGH FLOORS? MAGIC FLOOR *repairs* INDUSTRIAL FLOORS *in minutes!*

SO EASY TO USE—Even Your Secretary Could Apply It!

Why halt traffic for floor repairs in your busy plant? **Ranco MAGIC FLOOR** is ready-to-use, and needs no drying time. Just compress with ordinary lift truck—no laborious tamping or troweling. Traffic can roll **immediately** over the fresh floor patch.

MAGIC FLOOR is now available in a highly versatile, fine grading which can be applied thick or thin to excellent feather edges. Ideal for EXPANSION JOINTS broken to a V-shape. No skilled labor needed.

FREE SAMPLE: Send for a 2-gallon sample of MAGIC FLOOR, freight prepaid, no charge or obligation. Simply request on your company letterhead.

Write: RANCO INDUSTRIAL PRODUCTS CORP.
13311 M Union Avenue Cleveland 20, Ohio

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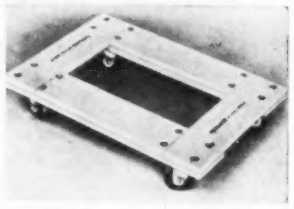
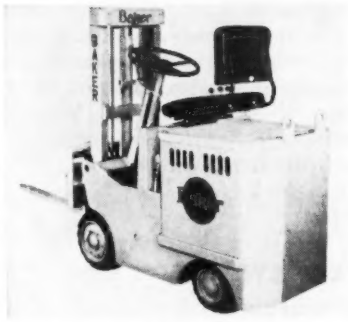
BALL BEARING DOLLY
six sizes have swivel casters



Built with an open center or solid platform of laminated rock maple, the Tote-Master dolly has flush top bolted construction. Four ball bearing swivel casters, have Oilite bushed 3-in. diameter wheels. Load capacity with hard rubber wheels is 900 lb and 500 lb with soft rubber wheels. Shakeproof lock washers are used in the 24 x 16, 27 x 16, 30 x 16, 27 x 18, 30 x 18, and 24 x 36-in. sizes offered. Standard height is 5½ in. • **Durall Tool Corp.**, 923 Old Nepperhan Ave., Yonkers, N. Y.

For more details circle **NED-617 K1** on enclosed inquiry slip

FORK LIFT TRUCK
compact unit has 2000-lb capacity



Turning radius of 59 in. and a right-angle stacking aisle dimension of 70⅜ in. plus length of load are features of the compact Model FTD-020 short-coupled electric fork lift truck. The 2000-lb capacity unit for heavy duty service is powered by a standard 18-cell, 15-plate "bobtail" battery providing 36 v. A recirculating ball type steering gear assures easy steering. Contoured driver's seat of molded foam rubber has a swivel backrest and is adjustable. Truck is 33¼ in. wide, 102⅛ in. long with 36-in. forks, and 83 in. high with 130-in. lift mast which tilts 10 degrees forward and backward. • **Otis Elevator Co.**, Baker Industrial Trucks Div., 8000 Baker Ave. N.W., Cleveland 2, Ohio.

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ROTATING BEAM LIGHT
for inplant warning or outside use

Circling a full 360 degrees, this Mark VI Tripp-Lite flashes 60 piercing beams a minute with 45 degrees vertical coverage in indoor or outdoor use. A vertical filament light source and special reflector combine to increase the coverage of this warning light. It draws 104 w, and is available in five flash colors for 110 or 220-v operation. • **Tripp-Lite**, 133 N. Jefferson St., Chicago 6, Ill.

For more details circle **NED-619 K1** on enclosed inquiry slip

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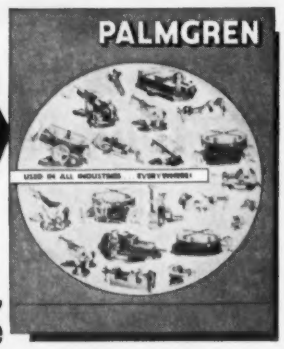

on Work Holding Tools For Production, Tooling, Maintenance

Drill press vises, angle vises, swivel machine vises, rotary tables, lathe milling attachments, production vises, heavy duty angle vises and adjustable angle plates are illustrated and fully described in this new PALMGREN Catalog #208. It shows the *ONLY* complete line of work holding devices available anywhere. Designed for production, tooling and maintenance work, it shows over 70 different models and types, with jaw sizes from 1½" to 8". Ask for your FREE copy of this catalog today, it shows the complete line and prices.

No. 2B Heavy duty 4" Angle Vise

No. 84, 8" Rotary Table

137

PALMGREN PRODUCTS
8378 SOUTH CHICAGO AVE. • CHICAGO 17, ILLINOIS

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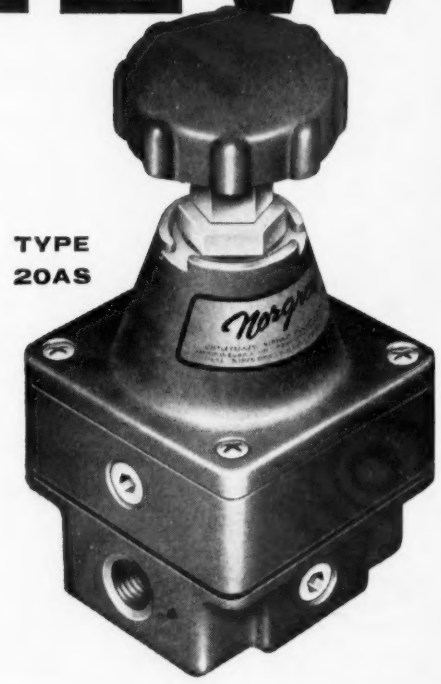
NEW



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For air-gauging, laboratory use, pilot regulation and other applications requiring high sensitivity and extreme accuracy.

Operating benefits include: **1.** Accurate regulation even at pressures below 1 psig. **2.** Accurate control at all flows up to the maximum flow recommended for ¼" pipe . . . more than 2 times the flow previously possible with instrumentation regulators. **3.** Freedom from hunt, hum, chatter. **4.** Exact repeatability and freedom from drift over short or long time operation. **5.** Built-in relief.

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FOUNDED IN 1926

C. A. NORGREN CO.
3405 SOUTH ELATI STREET, ENGLEWOOD, COLORADO

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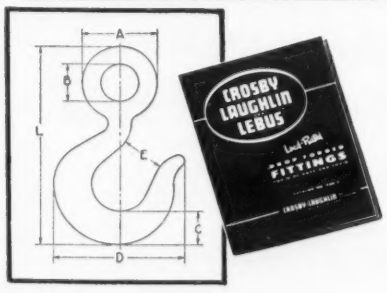

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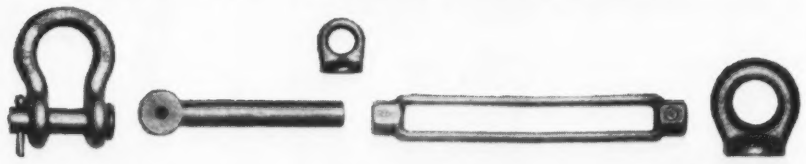

to 2000 types and sizes of PRE-DESIGNED

ready-to-install forged fittings

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CROSBY LAUGHLIN
FT. WAYNE, INDIANA

Division of **AMERICAN HOIST**

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with MILFORD "MULTIPLES!"

The "Multiples" that keep assembly costs down while increasing production and profits are standard Milford rivet-setting machines operating as a unit. The Milford line is designed as "building blocks" for multiple units to suit your automatic riveting needs. They can be flexibly regrouped to meet the next, low cost assembly requirement.

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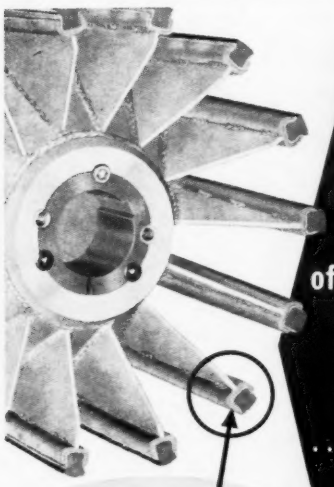

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• Positive Cleaning Action

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AT THE DRIVE .....END

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... And Full Information on How to Solve Difficult Drive Pulley Problems

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NEW BULLETIN Gives all the facts. Ask for new Bulletin

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Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS ...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | CLEMENTS MFG. CO. 6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

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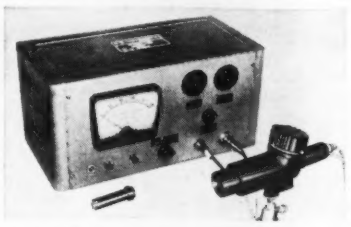
PYROMETER-CONTROLLER for continuously moving objects, has 20-millisecond response time

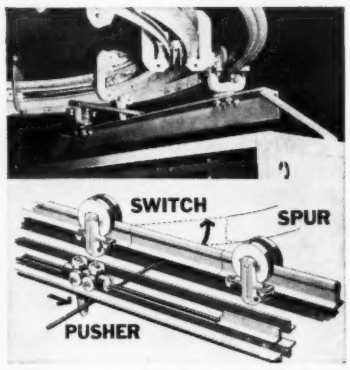


Accurate, repeatable temperature readings on targets such as wire traveling at 5000 fpm are obtained with the Model PY45 Pyrotel infrared radiation pyrometer - controller. The noncontacting unit provides continuous temperature measurement and control of inaccessible, fragile, or rapidly moving objects at temperatures as low as 300° F. Detector head obtains readings from objects of virtually any size.

Used with induction and resistance heaters, the pyrometer-controller has a built-in relay to provide warning signals for manual adjustment or for automatic step control of heaters. Where stepless or proportional control is desired, the instrument furnishes power output for driving a reversible motor. Additional outputs drive any standard potentiometer or galvanometer recorder. A synchronous chopper assures stability, sensitivity, and response times of 20 milliseconds. Water cooled detector heads are available for use in extreme temperatures. • **Mason Instrument Co.**, Dept. 45, 222 Valley Place, Mamaroneck, N. Y.

For more details circle NED-625 K1 on enclosed inquiry slip

PUSHER CONVEYOR SYSTEM for overhead materials handling



One-thousand pound capacity trolleys are pushed on a paralleling heavy duty MonoRail track in this Chainless overhead conveyor system. Trolley capacities can range up to 4000 lb. Spur tracks with manual switches can be located anywhere along the system. Thus the carriers can circulate continuously with work that can be lifted off, or the carriers can be switched to spur tracks where longer unloading time is needed. The spur tracks can be extended economically into other production and storage areas. Chainless trolleys which give the pushing action are connected by steel rods, terminating in ball joints. They have eight wheels and ride inside a four-rail track system. Heavy loads are handled without canting on horizontal curves, vertical dips or rises, or on straight sections. • **American MonoRail Co.**, Conveyor Div., Fourth & Franklin Streets, Tipp City, Ohio.

For more details circle NED-626 K1 on enclosed inquiry slip

Now You Can Cut Finishing Time 66%!

*NEW Rampe VI-BRADER**

*Controlled Orbital Finishing Machine**

An entirely new concept in barrel finishing is used in the amazing new VI-BRADER Model 10 machine. It cuts finishing as much as 66% or more! Tumbles workpieces in a unique-design circular orbit. Finishing time and costs go down . . . output goes way up.

VI-BRADER Model 10 has full 1.25 cu. ft. capacity using conventional tubs or Rampe Rollabrader barrels. Variable speed adjustable 950 to 1800 rpm. Other models available on order up to 4 cu. ft.

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FIRST OF ITS KIND IN THE INDUSTRY . . . **$1085**

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MOVE CARTONS, BOXES, BALES or BAGS *FAST,* EASILY AT LOW COST!

WITH THE AMAZING

Ve-Be-Veyor

• LIGHT WEIGHT — EASY TO MOVE
• UP TO 30% INCLINE
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• PLUGS IN ANY 110-120 OUTLET
• FULL 12" RUFF-TOP BELT

ONLY $461.00 for 12 foot model shown. 16 foot and 20 foot models plus extra accessories are available. Prices F.O.B. Morton Grove plus state taxes.

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Get all the dope on this high speed, versatile, little "powerhouse" conveyor. Does 1001 jobs in plants of all kinds. ASK FOR YOUR LITERATURE TODAY.

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The WELLS Model 600 Metal Cutting Band Saw

for Tool and Stock Room Service • for Medium Production Jobs

Rugged in design, dependable in operation, the Wells Model 600 is the ideal saw for tool and stock rooms . . . gives excellent service on medium production jobs. Uses 5/8" blade. Adjustable, uniform gravity feed is provided by hydraulic stabilizer and special coil spring. Casters available for portability. Write for Bulletin 260-A.

The Pioneers of Horizontal Wells METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION 1313 Harding St. • Three Rivers, Mich.

For more details circle NED-629 K1 on enclosed inquiry slip

No Pressure "KICK-BACK" with HUNT valve couplings

Twist sleeve and pull . . . line pressure is cut off—down-stream air bleeds to atmosphere. Squeeze jaws and pull . . . coupling separates without dangerous kick-back. Sliding sleeve acts as valve and positive coupling lock.

Rugged construction . . . leak-free performance . . . full 360° rotation. For trouble-free, cost-cutting service, specify Hunt Quick-As-Wink® valve couplings. Sizes for 1/4 through 3/4 in. hose.

For complete information, write for Bulletin No. 593. Address Dept. NED-1061, Hunt Valve Company, Salem, Ohio.

HUNT QUICK-AS-WINK® AIR AND HYDRAULIC VALVES

HUNT VALVE COMPANY • DIVISION OF IBEC • SALEM, OHIO

3003-3

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Control VIBRATION with VIBRA-MOUNT®

Send today for this VALUABLE NEW BROCHURE on economical VIBRA-MOUNT vibration isolation pads. Eliminate damage to machinery and floors. Available in standard and PERF-O-GRIP* design for maximum isolation (stops creep and crawl).
Your VIBRA-MOUNT distributor will help you select the proper VIBRA-MOUNT and give experienced advice on installation methods.

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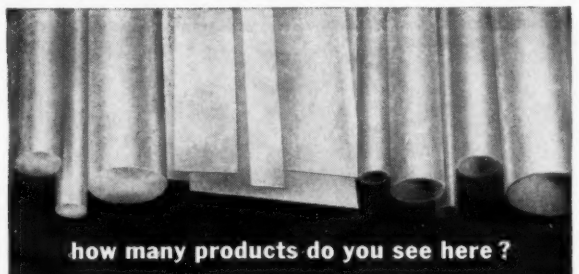

how many products do you see here?

No, you can't see *all* the products that are being made today using *Danco* precision extrusions. *Danco* tubing and pipe, solid rod, and strip and heavy wall tubing — extruded in Nylon and other engineering thermoplatics — are self-lubricating . . . tough . . . long-wearing . . . non-corrosive and practically frictionless.

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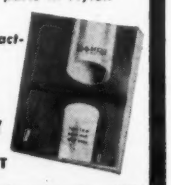
MOLDED PARTS. You want to know more about *Danco's* experience and engineering of custom molded parts in Nylon and other engineering thermoplastics too.

DANCO

Free — new, fact-filled catalog on DANCO EXTRUSIONS. Write today!



THE DANIELSON MANUFACTURING COMPANY
A Subsidiary of Nicholson File Company
KING STREET, DANIELSON, CONNECTICUT

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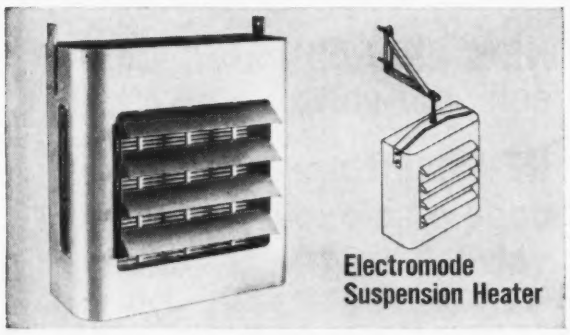
Safe . . . Compact Electric Heater Installs Anywhere



- Install easily, for use as spot or primary heater, anywhere you can find an electric outlet.
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- Exclusive cast-aluminum Safety Grid.
- Complete range of capacities, from 5,122 to 153,675 BTU.
- Available in 120, 208, 240, or 480 volts.

For specifications, write for our 20-page catalog.

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Dept. NE-101, 570 Culver Road, Rochester 3, New York

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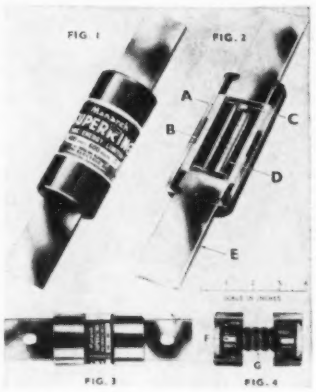
CURRENT LIMITING FUSES in 1 through 600-amp ratings



Superking NEMA standard current limiting fuses protect electrical equipment by limiting the destructive potential of high short circuit currents with fast action and current "cut off" or fault energy limitation. Class H limiter shown in Fig. 1 and 2 is offered in 600 and 250-v, 1 through 600-amp ratings. It is suitable for standard NEC fuse clips. Class J limiter for rejection type fuse clips is rated 600 v, 1 through 600 amp. Fuses are designed for use in fusible disconnects, panel boards, power panels, combination starters, and other equipment, protecting them against fault currents up to 200,000 rms symmetrical amperes. Silver elements are hermetically sealed inside a ceramic cartridge. ● **El-Tronics Inc.**, Monarch Electric Div., E. First Street, Jamestown, N. Y.

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Exide LDR (light duty rectifier) charger is used for light duty industrial truck, personnel carrier, and other small electrically powered vehicle batteries. It also charges any make or type of 12, 24, or 36-v lead-acid battery. Charger is fan-cooled, and is equipped with fuse, ammeter, and on-off switch as part of the timer. Models are available for charging 24 and 36-v batteries in the capacity range of 200 to 240 amp-hr and 12-v batteries in the 300 to 360-amp-hr range within 16 hr. Operation is on 115 v ac. ● **Electric Storage Battery Co.**, Exide Industrial Marketing Div., Rising Sun & Adams Avenues, Philadelphia 20, Pa.

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Designing Make-Up Air Systems

FREE Reznor Mfg. Co.—Handbook entitled "Design Considerations for Make-Up Air Systems" presents in 8 pages an anaylsis of the need for and the basic steps to follow. The series is devoted to discussions of industrial, commercial, institutional, and other specialized applications of direct-fired gas space heating equipment.

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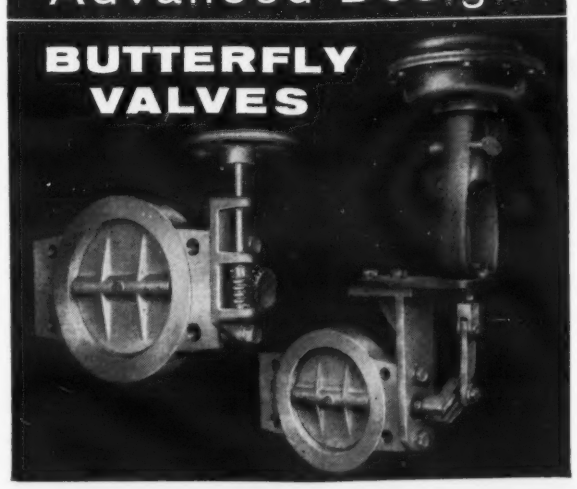

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- Variety of actuators
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- Adjustable for 60° or 90° operation
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Whatever your needs, specify Masoneilan Butterfly Valves. Call or write for catalog.

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Division of Worthington Corporation
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more control less piping with NEW 3000 PSI PIGGY-BACK VALVES

Check these design advantages of Racine's new 4-way Directional Control Valves:

FULL PRESSURE at all ports, including drain.

INTERNAL DRAIN AVAILABILITY means less piping.

3000 PSI RATING on these streamlined, dustproof valves provide greater design applications.

SMALLER SOLENOIDS offer more compact design that can result in reduced installation costs for complete systems. Design conforms to J. I. C. standards.

3 SIZES: 1/8" 3/8" 3/4"

RACINE

RACINE HYDRAULIC & MACHINERY, INC.
Racine, Wisconsin • Hydraulic Division

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A.

Frankly, we don't know.
The customer didn't tell us. But he wanted 1,000, and we made them at an amazingly low cost. Special sizes and shapes of shop boxes are economically produced by our "Chem-Board" process of rigidizing hi-test corrugated board to remarkable strength.

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SPRAY ENGINEERING 106 Cambridge Street, Burlington, Mass.

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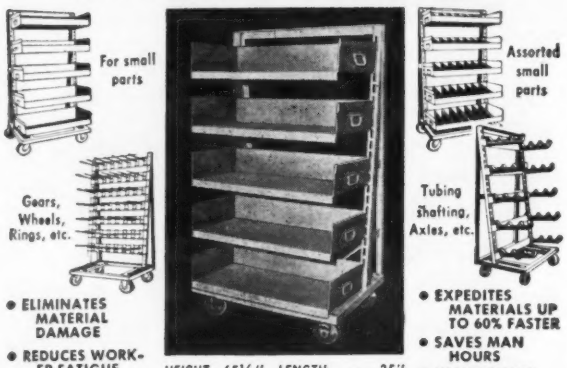
THE VER-T-RACK

THE ACME OF VERSATILITY



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- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT—65½" LENGTH — 35"
WIDTH— 24" CAPACITY 2000 lbs.

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck. Trays are adjustable on VER-T-RACK

PRICE — $49.50 Varied Accessories Extra

Slightly higher west of the Rockies Write today for descriptive literature

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• 2020 CENTER STREET • CLEVELAND 13, OHIO

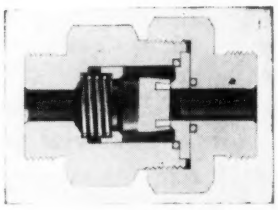
For more details circle NED-642 K1 on enclosed inquiry slip

UNBALANCE INDICATOR
for checking rotating parts

The amount and angle of vibration caused by an unbalanced rotating part is quickly determined with this pulse synchronized unbalance indicator. This instrument can diagnose unbalance in parts, spindles, engines, and assemblies. It also indicates the speed of the vibration in a range of 500 to 5000 rpm, standard, or up to 50,000 rpm on special order. A magnetic, photocell, or capacitive pick-up is used on the rotating part. This portable 40-lb unit operates on 110-v, 50 to 400-cycle ac. • **General Motors Research Laboratories,** 12 Mile & Mound Roads, Warren, Mich.

For more details circle NED-645 K1 on enclosed inquiry slip

CHECK VALVES
eliminate surge and reverse flow



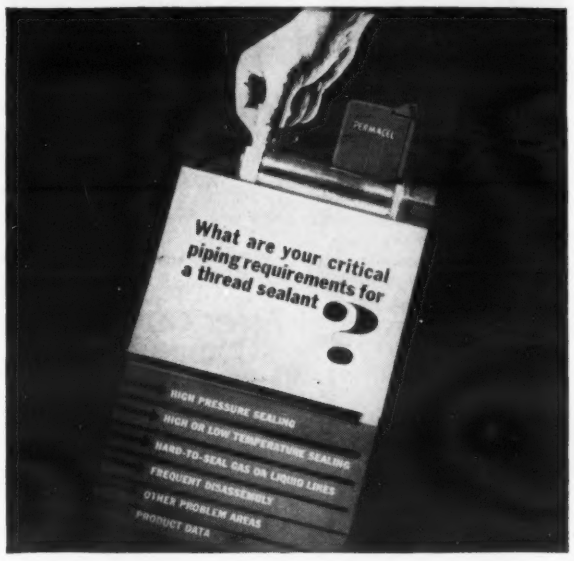
Leakproof shutoff at pressures to 6000 psi and temperatures from −20 to 275° F are assured with this line of O-seal check valves. They combine a soft, resilient nylon seat with pressure of spring closure to eliminate surge and reverse flow in high pressure liquid or gas systems. Cartridge construction permits easy installation or removal of internal parts for inspection. Sizes from ¼ to 2 in. are available in in-line and globe types. • **Combination Pump Valve Co.,** 848 Preston St., Philadelphia 4, Pa.

For more details circle NED-646 K1 on enclosed inquiry slip

VIBRATION MONITOR
detects, measures over wide range

Transistorized, modular, portable vibration monitor will detect and measure vibration amplitudes over a 10 to 10,000-cps frequency range. Displacement ranges are 1.5, 5, and 15 mils. It is used on any lab, shop, or field machinery and equipment that presents the prospect of vibration. It measures 7½ x 3⅝ x 8¾ in. and weighs 4 lb, or 6¾ lb with optional high pass or band filters. Monitor is adaptable to 110 v ac or battery power. • **Lehigh Valley Electronics, Inc.,** 215 S. Third, Allentown, Pa.

For more details circle NED-647 K1 on enclosed inquiry slip



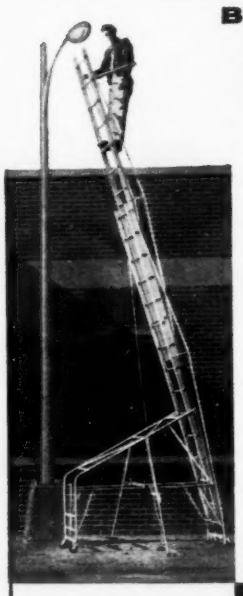
Free, informative booklet suggests time-saving, money-saving uses of RIBBON DOPE Thread Sealant (TRADE MARK) by PERMACEL. Write for it today.

PERMACEL® NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

For more details circle NED-648 K1 on enclosed inquiry slip

FOR MORE USES... MORE SAFETY— BUY Bally-Hi



Open construction design allows the "Bally-Hi"—a two-stage ladder mounted on a wheeled frame—to move between and over obstacles such as machines—where ordinary ladders can't go. Collapsible outriggers prevent tipping. Reaches heights to 25 ft., anchors to floor firmly, goes through average size doorways when collapsed. Equipped with extra safety and comfort features that contribute to the user's sense of security. "Bally-Hi" may be truck-mounted.

Ballymore "Safety-Step" ladders serve industry.

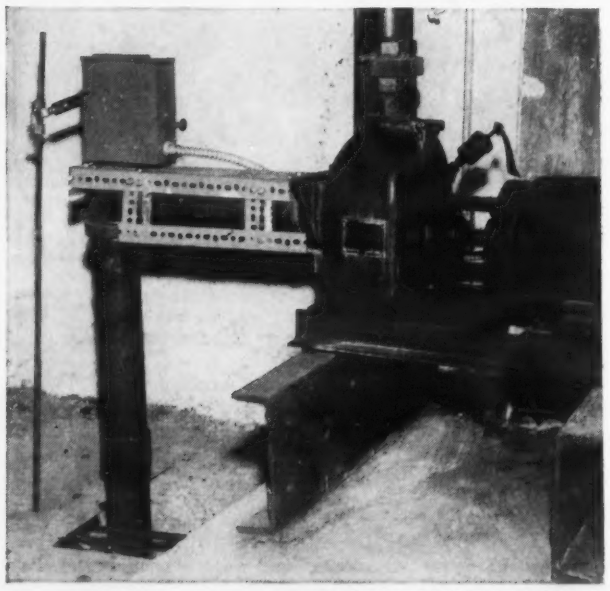
WITH OR WITHOUT HANDRAILS

For complete details write to BALLYMORE COMPANY WEST CHESTER 3, PA.
CALL YOUR LOCAL DISTRIBUTOR

BALLYMORE
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

For more details circle NED-643 K1 on enclosed inquiry slip

DEPENDABLE GORMAN-RUPP PUMP PROTECTS VITAL CONTROL EQUIPMENT



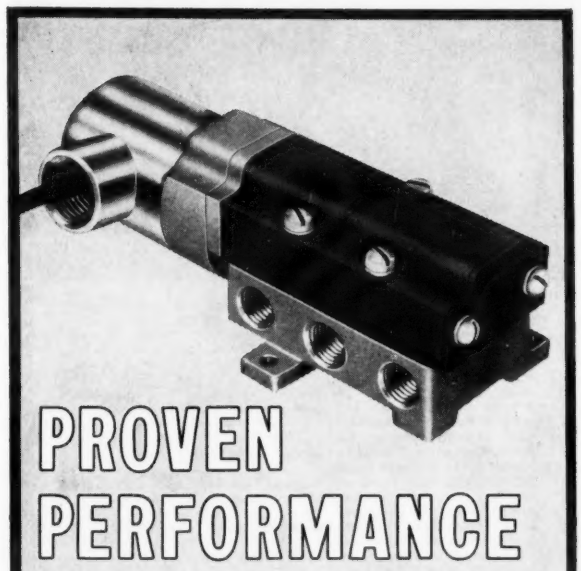
THIS SUMP PUMP IS GOOD INSURANCE! Heavy rains formerly flooded this area in a Philadelphia establishment, causing heavy damage to automatic electrical control equipment essential to the operation of the business.

Any drainage water now collects first in the sump from which this Gorman-Rupp pump (Model 83B2-E3) takes its suction. The pump is a self-priming centrifugal, with automatic float control. It is rugged and simple in design, has only one moving part, requires little or no maintenance . . . the most reliable unit you can put on a responsible job.

The Gorman-Rupp line includes pumps used the world over for handling water, slurries, gasoline and oil, etc. Types and sizes to meet your requirements, either as plant equipment or in your product assemblies. *Call our Distributor near you, or write us direct.*

THE GORMAN-RUPP COMPANY
305 Bowman Street Mansfield, Ohio
Gorman-Rupp of Canada Ltd., St. Thomas, Ontario

For more details circle NED-644 K1 on enclosed inquiry slip



PROVEN PERFORMANCE

Alkon's Series A 4-way valve. Carbide-hard surfaces insure long life with low maintenance.

NEW Pilot-operated solenoid valve for greater circuit flexibility — complete ⅜" line now added to 50-million-cycle reliability of ¼" line. All actuators available. ¼" and ⅜" sub-plate mounting standard.

LOWEST PRICES

and high value are the hallmarks of all Alkon products — valves, cylinders and drill units. Check these prices!

NEW pilot operated single solenoid valve . . . $29.75

NEW pilot operated double solenoid valve . . . $44.75

Write today for new 24-page catalog on Alkon valves, cylinders and drill units!

Alkon Products CORPORATION
200 Central Avenue,
Hawthorne, New Jersey
HAwthorne 7-6633

alkon

For more details circle NED-649 K1 on enclosed inquiry slip

DELRIN in Design Engineering

GARLOCK DELRIN* now ready to help you design the extraordinary. Has resilience comparable to spring steel. Unusual resistance to solvents, abrasion. Excellent electrical properties. Odorless, tasteless. Maintains properties through wide range of temperature, humidity, stress.

Add Garlock experience in fabricating plastics. Result—ability to produce intricate shapes never before possible. Garlock design engineers will work with you. Or, Garlock Delrin rod is available in 1¼" to 3" diameters. Standard lengths 4 and 8 ft.

Look to Garlock for all your plastic needs . . . Delrin, Teflon* (TFE and FEP), Nylon, other plastics available. Call your distributor or nearest Garlock sales office for more data. Or, write for Catalog AD-177, Garlock Inc., Palmyra, New York.

GARLOCK

Canadian Div.: Garlock of Canada Ltd. **Plastics Div.:** United States Gasket Company. **Order from the complete line** of quality Garlock products . . . Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Stock and Parts.

*Du Pont Trade Mark

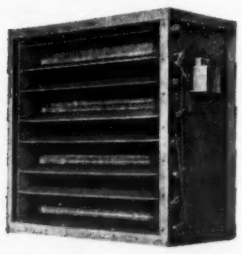
▲ For more details circle NED-650 K1 on enclosed inquiry slip ▲

NEW WING IFB* HEATER SECTIONS

for freeze proof air conditioning, preheating and tempering applications

Steam, hot water or high temperature hot water operated Wing IFB* Heater Sections permit simple, low cost, freeze proof installations in any central air conditioning system. Temperatures, controlled without throttling steam are uniformly maintained. Modulating steam valves or multiple coils are not required. Non-stratified air delivered three feet downstream of section eliminates need for extensive duct work normally required for mixing purposes. Thermostat sensing bulb location problems are simplified. Wide range of sizes up to 35,000 CFM, 24 sq. ft. of face areas from single section

* Integral Face By-Pass



WRITE FOR BULLETIN IFB-61

L. J. WING MFG. CO.
DIVISION OF AERO-FLOW DYNAMICS, INC.
165 VREELAND MILLS ROAD, LINDEN, NEW JERSEY
FACTORIES: LINDEN, N.J. AND MONTREAL, CANADA

▲ For more details circle NED-651 K1 on enclosed inquiry slip ▲

TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

HANDI-LUBE LIQUID GEAR COMPOSITION

Exclusive formula absolutely eliminates metal-to-metal contact on open gears, dipper sticks, cams, sliding surfaces. Keeps wear on the lubricant, not the metal! No breakdown even after prolonged use under water—available for every climatic condition. Now in extensive use in plants, pits, quarries, construction industries, etc. Packaged in 16-oz. aerosol spray-on containers in four grades—Light, Medium, Heavy and Extra Heavy. Send today for free trial sample. Specify application for which intended.

68 YEARS OF LEADERSHIP LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Open and Enclosed Chain
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893
THE WHITMORE MANUFACTURING CO.
LUBRICATING ENGINEERS
CLEVELAND 4, OHIO • VULCAN 3-7272

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METALFORMING PROCESS for making steel tubing and vessels

Increased strength and ductility is reported for steel vessels and tubing produced by the Ardeform process. Cylinders are rolled and welded, cooled to −320° F, and then stretched with gaseous nitrogen. Yield strengths in tanks made of Type 301 stainless by this process have reached 260,000 psi. Typical applications include rocket cases, high strength tubing, structural members, and box beams. • **Arde-Portland, Inc.**, 100 W. Century Rd., Paramus, N. J.

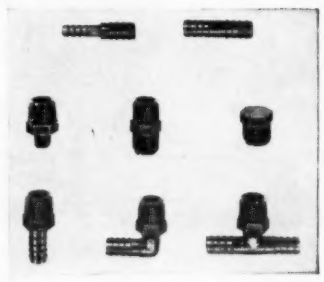
▲ For more details circle NED-653 K1 on enclosed inquiry slip ▲

CHEMICAL HAND PUMP withstands corrosive fluids

Self-priming and virtually leakproof, this inexpensive hand pump for transferring corrosive liquids has a large diameter body and flexible hose. It is molded of polyvinyl chloride with Hypalon and polyethylene valves, and affords resistance to acids, oils, alkalis, inorganic salt solutions, and other fluids. Sizes to pump 1 gal in four, six, or nine strokes are available. Adapter for polyethylene carboys and extra hose lengths are offered. Prices start at $11.95. • **Beckson Mfg., Inc.**, Box 3336, Bridgeport, Conn.

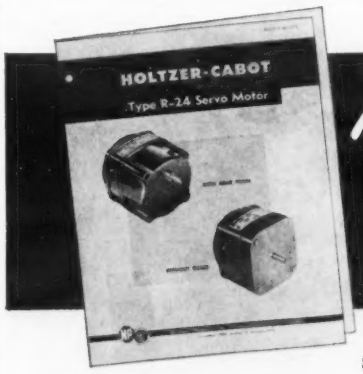
▲ For more details circle NED-654 K1 on enclosed inquiry slip ▲

PLASTIC TUBE & HOSE FITTINGS for 1/8 to 3/8-in. pipe sizes



Low cost Thogus adapter, elbow, tee, plug, nipple, reducer, connector, and reducer-connector fittings for plastic tubing and hose in iron pipe sizes from 1/8 to 3/8 in. are molded of high density polyethylene. They are noncorroding, chemical resistant, and have high impact strength. Fittings are usable in practically any system handling fluids. • **R&K Plastic Industries Co.**, Industrial Plastic Fittings Div., 3891 W. 150th St., Cleveland 11, Ohio.

▲ For more details circle NED-655 K1 on enclosed inquiry slip ▲



NEW!

DETAILED DATA ON SERVO MOTORS

Send for Bulletin MO-3.7A

Here's information you can use to increase speed and accuracy in high precision control and measuring equipment . . . 4 fact-filled pages on Holtzer-Cabot's line of R-24 Servo Motors. Contains 3 sets of speed-torque, performance curves and other pertinent data such as starting voltage, stall torque, rotor inertia, acceleration at stall, etc. Covers R-24 motors available with stacking lengths of 0.5", 0.7", 1.0" and 1.4". Models with or without gear trains. Write: Holtzer-Cabot Motor Division, 125 Amory Street, Boston 19, Massachusetts.

HOLTZER NP CABOT
MOTOR DIVISION
National Pneumatic Co., Inc., Boston 19, Mass.

▲ For more details circle NED-656 K1 on enclosed inquiry slip ▲

KENNEDY

heavy duty ROLLER CABINETS *and* TOOL CHESTS

They're expandable! Buy one section now . . . add others later. Built of high quality steel for long, rugged life. Made with the tool user in mind.

CHOOSE FROM **MANY MODELS** AND COMBINATIONS

Write for catalog and the name of the nearest Kennedy dealer.

KENNEDY MANUFACTURING CO.
VAN WERT 10, OHIO

KM28

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From RUST Removal to final FINISH

On Sheet or Coil Stock

HERE IS THE ONE PASS ANSWER

FOR WIDTHS UP TO 48 INCHES

Model 309 is ready for almost any problem you encounter with metals, alloys, laminated surfaces, wood, plastics, printed circuitry . . . you name it! For coarse stock removal, satin finishes, mirror surfaces, polishing, brushing, waxing, etc. It's a pinch-roll, thru-feed unit.

CLAIR ONE OF 12 MODELS OF CLAIR SURFACE FINISHING MACHINES

MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

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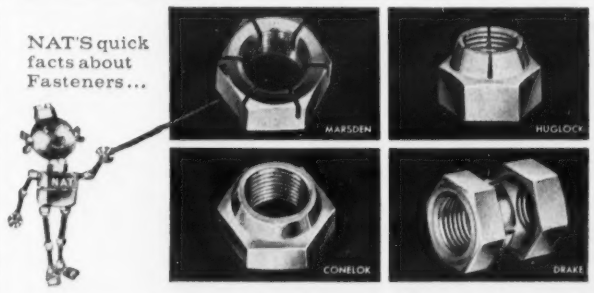
NAT'S quick facts about Fasteners...



Looking for the **right** lock nut? Put these four high on your check list

MARSDEN for minimum cost, average conditions. Free-running until seated. One-piece, re-usable.

HUGLOCK for adverse conditions. Locks without seating. One-piece, re-usable.

CONELOK for high fatigue life. Closed stress paths. Locks without seating. One-piece, fully re-usable.

DRAKE for severe stress, shock and vibration. Free-running until seated, or can be locked at any point. Two-piece, fully re-usable.

Write for literature and keep it handy for future reference.

The National Screw & Mfg. Company
Cleveland 4, Ohio
Los Angeles 22, Calif.

▲ For more details circle NED-659 K1 on enclosed inquiry slip ▲

Battery-powered magnets offer improved work handling at low cost

Sundstrand battery-operated lift magnets extend the work range of conventional hoists, cranes, and lift trucks without requiring major capital outlays or tying up equipment while making change-overs.

One lift is all that is required even when work moves from one shop area to another, to an outside loading dock, or to yard for storage because the power source moves right along with the work.

Two capacities

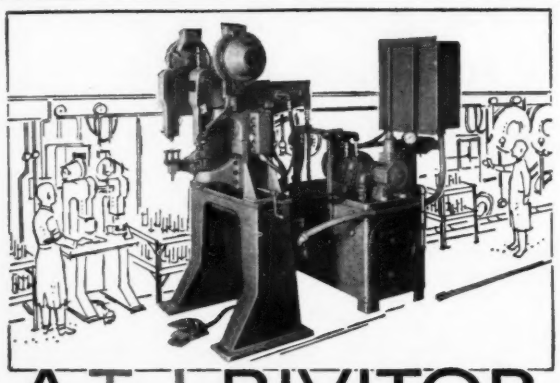
Either 2000 or 4000 lb of lifting capacity is provided by two models using 6- or 12-volt automotive-type batteries. Dial indicates need for recharge, usually is handled overnight.

Distributors:

Sundstrand Lift Magnets offer attractive sales opportunities. Investigate. Details on request.

SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN

For more details circle **NED-660 K1** on enclosed inquiry slip



A T-J RIVITOR

on your production line
means higher production rate . . . lower unit cost!

T-J Rivitors and Clinchors are designed, engineered and manufactured to conform and operate efficiently on today's high-speed production lines. For whatever your product . . . if it demands a fastening assembly procedure . . . a T-J riveting or clinching machine adds to its high quality standards by their ability in providing long, rugged service-free life.

Many standard designs to choose from . . . or a T-J can be custom designed for your exact requirements. Write Tomkins-Johnson, 2425 W. Michigan Ave., Jackson, Mich., today. Ask for Rivitor and Clinchor Bulletin No. 646 or Clinchor Bulletin No. 555.

T-J TOMKINS-JOHNSON

For more details circle **NED-661 K1** on enclosed inquiry slip

If your new product requires a special fractional horsepower motor, let Lamb Electric do the THINKING • DESIGN • MANUFACTURE • You get the RIGHT motor produced at the most favorable cost.

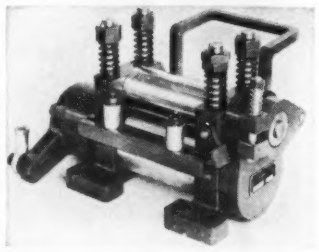
FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference"

THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of
American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

For more details circle **NED-662 K1** on enclosed inquiry slip

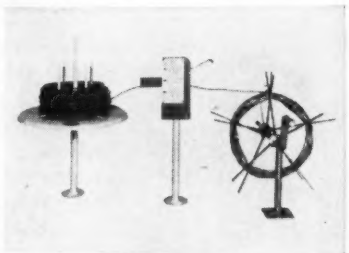
METAL ROLL FEEDS operate at up to 500 fpm



Series B roll feeds for metalforming applications comprises units with widths of 4, 6, 8, 10, 12, and 15 in. and with feed lengths of 0 to 3 or 0 to 9 in. Model 40-6 shown handles 6-in. widths up to 0.125 in. thick at speeds to 500 fpm. Adjustable tension brake on upper roll minimizes backlash. Feeds are highly accurate when used in conjunction with Egan straighteners, reels, and cradles. • **Frank W. Egan & Co.,** S. Adamsville Road, Somerville, N. J.

For more details circle **NED-663 K1** on enclosed inquiry slip

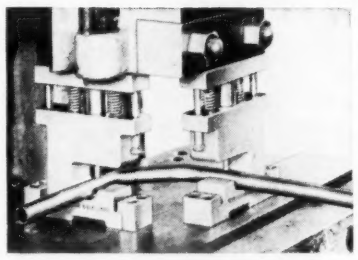
WIRE MEASURING UNIT occupies minimum counter space



Dispensing of small gage wire, extension cord, TV ribbon, and other such flexible materials as rope or plastic tubing is facilitated with this light duty counter set. It is made up of a 15½-in. diameter payoff reel, a wire meter which accepts and measures the length of any material with up to 1-in. diameter, and an adjustable takeup reel. The meter resets to zero instantly. The takeup reel is collapsible for removal of the measured product. Both reels will handle up to 10 x 10-in. spools. • **Hykon Mfg. Co.,** Box 923N, Alliance, Ohio.

For more details circle **NED-664 K1** on enclosed inquiry slip

TUBE PIERCING UNITS used singly or in gangs



Straight and curved tubing, as well as flat stock, angle iron, and other shapes, are rapidly and economically pierced with self-contained Perf-Arc units. They can be used singly or mounted in gangs of two or more, either flush with each other, spaced apart, or at right angles as shown. Various sizes are available for mounting in die sets, on subplates, or directly to bolster plates. Bushings and perforators for each unit are offered in a range of sizes and are interchangeable. • **Vogel Tool & Die Corp.,** 1825 N. 32nd Ave., Stone Park, Ill.

For more details circle **NED-665 K1** on enclosed inquiry slip

For portable commercial wet or dry cleaners or other applications requiring high vacuum and moderate air flow. Features new non-dirt-loading fan blades and air cooled fan-end bearing.

FREE! Write for descriptive Bulletin 251

THE LAMB® ELECTRIC COMPANY • KENT, OHIO
A Division of
American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

For more details circle **NED-666 K1** on enclosed inquiry slip

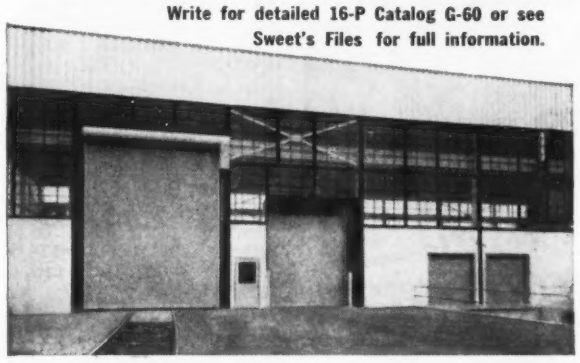
Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

in sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.



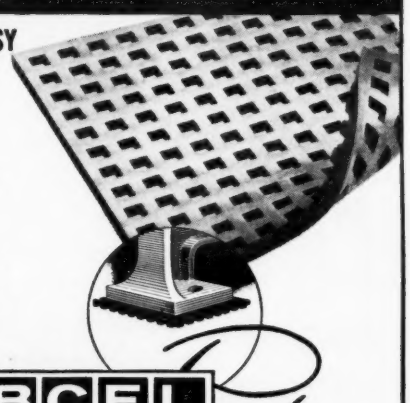
MAHON

THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN
Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

For more details circle **NED-667 K1** on enclosed inquiry slip

NEW REVOLUTIONARY DESIGN FOR LOW COST MACHINE MOUNTINGS

THE NEW EASY BETTER WAY TO INSTALL MACHINERY



Scientifically constructed suction cells anchor machine to floor. No bolts, lag screws or cement needed.

FABCEL Pads
Patent Applied For

Write for new catalog

- Control Vibration
- Absorb Impact
- Reduce Noise

FABREEKA PRODUCTS COMPANY, INC.
1195 Adams Street, Boston 24, Mass.
Representatives in principal cities
In Canada: International Equip. Co., Ltd.
Royal Bank Bldg., Montreal

- made by the makers of Fabreeka -

For more details circle **NED-668 K1** on enclosed inquiry slip

For central vacuum cleaner systems or other applications requiring high vacuum and moderate air flow. Features single air discharge . . non-dirt-loading fan blades . . . and air-cooled fan-end bearing.

FREE! Write for descriptive Bulletin 252

THE LAMB® ELECTRIC COMPANY • KENT, OHIO
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American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

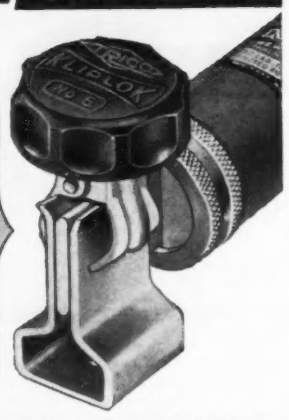
Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

For more details circle **NED-669 K1** on enclosed inquiry slip

TRICO KLIPLOK CLAMPS FOR FUSE CLIPS

"LOCK LIKE A VISE"

- STOP UNNECESSARY FUSE BLOWS
- SAVE POWER
- STOP HEATING AND ARCING AT CONTACTS
- ELIMINATE BURNT FUSES AND CLIPS
- LOW IN COST
- EASILY INSTALLED



"Kliploks" supply the needed pressure between fuses and clips for easy flow of current. *Especially recommended* for use with *Dual-Element Fuses* due to the critical softening point of the low melting alloy used. "Kliploks" pay for themselves many times over.

TRICO OILERS

Stop guess-work hand oiling. End bearing failures . . . Reduce motor burn-outs . . . Save oil, time, worry. Easy to install . . . Low in cost.

SEND FOR FREE CATALOG

KLIPLOKS ARE ALSO HANDY FOR:

- Cable Splicing
- Tapping to Bus Bar
- Drilling, Soldering, etc.

WRITE FOR BUL. NO. 6

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

▲ For more details circle **NED-670 K1** on enclosed inquiry slip ▲

REVCO

ULTRA-LOW TEMPERATURE CABINETS

for

- Research
- Storage
- Seasoning
- Testing

Seven Revco cabinets, both chest and upright styles, are available. Capacities range from 1.5 to 6 cu. ft. in chests and to 22 cu. ft. in uprights. Units provide temperatures to −140° F. controllable within ±1°. Optional accessories are offered. Immediate delivery on all units.

For your FREE copy of the helpful folder, "Selecting a low temperature cabinet," write Revco, Dept. NED101.

Industrial Products Div.,
REVCO INC.
Deerfield, Michigan
Setting Trends in Refrigeration Since 1938

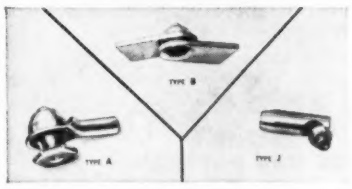
▲ For more details circle **NED-671 K1** on enclosed inquiry slip ▲

PORTABLE INFRARED PANELS formed into baking or curing ovens

Offered in a variety of widths and heights, these portable electric infrared heat panels have top sections hinged for inclining into an arc to form half an oven section. Rolling of similar units into position opposite one another forms paint baking or curing ovens of any size. Panels are made in four reflector wattages from 125 to 500 w, using Chromalox Metaray or G-30 glass lamp heat sources. Each type has 12-in. square anodized aluminum reflectors for uniformity of radiation at distances of 10 in. or more. Reflectors are mounted in banks of 4, 6, and 8-ft widths, with a toggle switch controlling each bank. A 20-ft cord and cap is furnished for connection to 240-v, three-phase power supply. • **Radcor, Inc.,** Bradner, Ohio.

▲ For more details circle **NED-673 K1** on enclosed inquiry slip ▲

BALL JOINTS & PIVOTS furnish linkage in equipment



Miniature sizes for use on instruments and typewriters and large sizes for heavy machinery and automobile steering joints and ball suspension typify available range of this line of linkage ball joints and pivots. They feature wide misalignment angle, wear take-up with screwdriver, precise bearing clearance control, and optional zero backlash. Hollow stud and ring bearing construction contributes to their high strength and low cost. Six available types are: Adjustable spring ball joint (Type A), with or without seal; adjustable spring ball joint with rivet construction (Type B); spring ball joint, with or without seal and springs (Type J); miniature antirattling ball joint, with or without spring; pivots; and miniature pivots. Sizes range from No. 8-32 to 5/16-in.-24, either right or left hand thread, in steel or stainless steel. Not all types are made in all sizes. • **Link-Age Corp.,** Box 92, East Station, Yonkers, N. Y.

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Modern Laboratory Apparatus

FREE General Scientific Equipment Co.—40-page Catalog GS-161 is descriptive of laboratory supplies, apparatus, protective garments, magnetic stirrers, liquid and compressed air pumps, plastic materials, and medical ware. Included is a thermoplastic properties chart outlining the uses for poylethylene.

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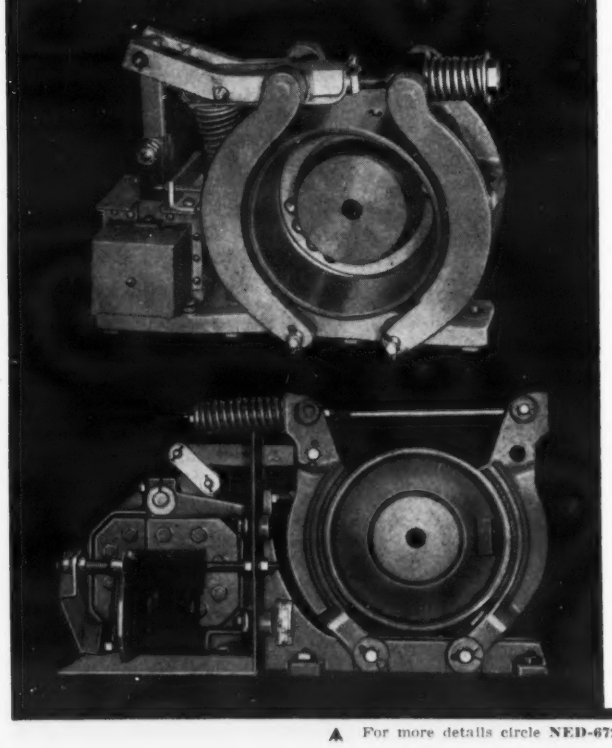
SIZES: S4, S5½, S7 for A-c or D-c; S10 for A-c only.



CONTROL

Here are the brakes that assure longer life

Cutler-Hammer A-c & D-c Solenoid Operated

Best brakes you can buy for conveyors, machine tools, elevators, small cranes and hoists and similar applications requiring a small dependable brake for stopping or holding the load.

Brake operates on extended motor shaft or may be applied to intermediate shafts of the transmission system.

Brake wheels are relatively large for torque developed, permitting greater amount of friction lining and lower brake shoe pressure. Payoff: Even wear of friction surface means longer life.

For more information, call your local sales office or write for Bulletin 511-U251.

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Cutler-Hammer Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Cutler-Hammer, Canada, Ltd.; Cutler-Hammer, Mexicana, S. A.

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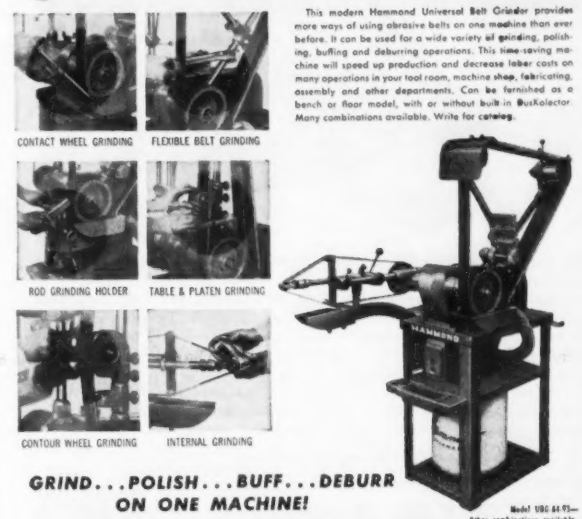
You'll get increased production plus greater versatility with a

Hammond UNIVERSAL BELT GRINDER

This modern Hammond Universal Belt Grinder provides more ways of using abrasive belts on one machine than ever before. It can be used for a wide variety of grinding, polishing, buffing and deburring operations. This time-saving machine will speed up production and decrease labor costs on many operations in your tool room, machine shop, fabricating, assembly and other departments. Can be furnished as a bench or floor model, with or without built-in BusKolector. Many combinations available. Write for catalog.



GRIND...POLISH...BUFF...DEBURR ON ONE MACHINE!

Model UBG 64-93—Other combinations available.

Hammond Machinery Builders INC.
1623 DOUGLAS AVE. • KALAMAZOO, MICHIGAN

AMERICA'S MOST COMPLETE LINE OF GRINDING, POLISHING AND BUFFING EQUIPMENT

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PROTECT WITH GER-PAK®

Polyethylene

BAGS • LINERS
SHEETING • TUBING

—industry's most versatile, low-cost material for packaging • shipping • storing

BAGS and LINERS

for drums, cartons, cans, pails

• Choice of bags and liners in rolls perforated for easy detachment, or handy flat individual liners • Up to 114 inches wide, no limit to length • Available gusseted or non-gusseted • Tie-off or peel-over construction

SHEETING

for shipping, storing, 101 in plant-uses

• Inexpensive tarps give all-weather protection for any size product in transit • As a pre-packaging material, eliminates need for special weather-tight containers • Comes in seamless widths up to 40 feet wide

TUBING

as covers, sleeves, containers

• Lay-flat tubing in a wide variety of lengths, widths, thicknesses to meet all requirements • For positive end-sealing: either heat seal or use new, super-adhesive GER-PAK Polyethylene MIRACLE TAPE

GERING PLASTICS
division of STUDEBAKER-PACKARD CORP.
Kenilworth, N. J.

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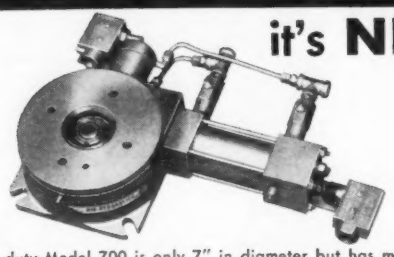
LOW COST 7" INDEX TABLE

it's NEW



The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

WRITE NOW FOR FREE CATALOG AND PRICE INFO.

AIR-HYDRAULICS INCORPORATED

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Your products, parts and packages can be most effectively and economically identified, marked, color-banded, labeled or multi-color decorated with *all* the information needed to inform, sell and encourage recording. Markem offers you a complete method including machine, type, and specialty ink engineered to your specific identification needs *at least cost to you.*

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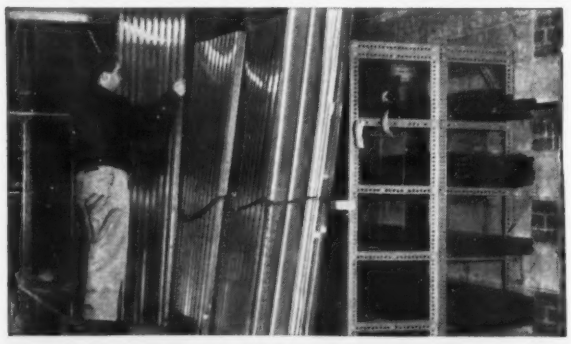


CUSTOM-MADE STORAGE that you can build yourself!

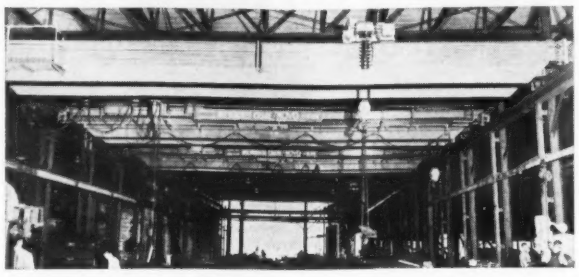
The building material of a thousand uses, Republic METAL LUMBER® solves every storage problem. Simply measure and cut, like lumber, and assemble with standard bolts and nuts. Makes whatever you need, in the size and arrangement you need . . . bins, racks, benches, steps, catwalks . . . you name it! Available fast, from your Republic distributor, delivered in bundles of 10- or 12-foot lengths. Call, or write for idea brochure.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-680 K1 on enclosed inquiry slip

INDUSTRIAL CRANES major components standardized in 5, 7½, 10, 15, and 20-ton models

Major mechanical, structural and electrical components are standardized in line of pre-engineered cranes for NEMA Class III industrial service. Interchangeability



of key components facilitates maintenance and reduces stocking requirements for spare parts. Line consists of 5, 7½, 10, 15, and 20-ton models.

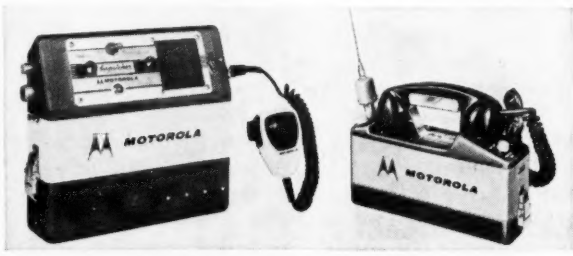
Lifts ranging up to 110 ft are available on 5 and 7½-ton models, whereas the 10, 15, and 20-ton models have maximum lifts of 118, 52.8, and 55.6 ft, respectively. Spans of 20 to 120 ft are available on all five models. Self-contained, packaged hoist reducer unit can be removed without dismantling trolley. A load brake is optional on the hoist reducer.

Wound-rotor motors with 275 per cent maximum torque and antifriction bearings are standard. • **Novo Industrial Corp.**, Milwaukee Crane Div., 3271 E. Van Norman Ave., Cudahy, Wis.

For more details circle NED-681 K1 on enclosed inquiry slip

TWO-WAY RADIOS vehicle-mounted and portable types

Fully transistorized receivers are featured in Dispatcher and Handie-Talkie two-way industrial radios. Dispatcher unit shown at left can be mounted on any



industrial vehicle and operates on as little as 0.4 amp power from the 24-v battery. Audio output of 5 w assures clear reception in noisy plant areas. The Handie-Talkie Radiophone at right weighs less than 8 lb and has power output from 1 to 8 w. On normal duty cycles it operates for as little as 9 cents per hour on extra-duty dry battery packs that last 10 to 12 days. Lightweight packs last five days. Rechargeable nickel-cadmium batteries provide 8 hr operation per charge. • **Motorola Inc.**, Communications & Industrial Electronics Div., 4501 W. Augusta Blvd., Chicago 51, Ill.

For more details circle NED-682 K1 on enclosed inquiry slip

Sulphur dioxide atmosphere eats away I-beam while "DEKORON®-COATED" E.M.T. remains unharmed.

Republic ELECTRUNITE® "DEKORON-COATED" E.M.T. resists corrosive atmospheres

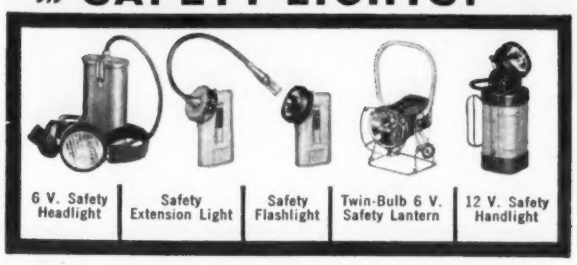
Every length of "DEKORON-COATED" Electrical Metallic Tubing is coated with a tough polyethylene shield for highest resistance to fumes, gases, steam, and other corrosive conditions. Couplings and fittings can also be protected with plastic tape for end to end corrosion protection of the entire raceway system. Send for complete information.

REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. • Cleveland 8, Ohio

For more details circle NED-683 K1 on enclosed inquiry slip

JUSTRITE

. . . America's greatest name in **SAFETY LIGHTS!**



The hazards of fire and explosion are two of the greatest dangers to plant safety. For more than 50 years, JUSTRITE has specialized in the development and manufacture of portable safety lights that meet the most rigid safety requirements and are easy to handle, resulting in employee approval. Why not standardize on the safety equipment that has been proved in thousands of situations? No wonder safety engineers say "JUSTRITE is all right!"

FREE! A complete 16-page, illustrated, descriptive Catalog, includes comprehensive table of operating data on dry batteries and lamps.

WORLD'S STANDARD OF SAFETY SINCE 1906

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this UNIPAK® can INCREASE YOUR ELECTRICAL CAPACITY BY 20%

It's no secret. It's one of Sprague Electric's power factor correction capacitors—proved in engineering principle . . . made by the world's largest capacitor manufacturer . . . listed by Underwriters' Laboratories . . . used by leading manufacturers the world over. Here's why—

Motors and similar equipment in your plant use both kilowatts (working current) and kilovars (magnetizing current). The kilowatts you buy from your electric company. The kilovars you can best supply yourself with Sprague power factor correction capacitors. And the more you supply, the greater your useful power, the less the load on present wiring, the lower your electric bill.

You can get a free estimate of potential savings in your plant, or literature giving more details by writing Sprague Electric Co., 183 Marshall Street, North Adams, Mass.

In Canada, write John R. Tilton Ltd., 51 McCormack Street, Toronto 9, Ont.

SPRAGUE®
world's largest capacitor manufacturer

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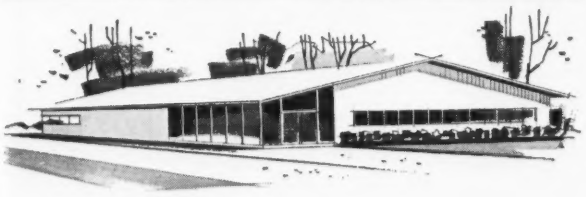

before you build or expand get the low prices on our new TRUSSPAN *Steel Building*

Choose TRUSSPAN and you can build as fancy or as plain, as big or as little, as high or as low, as long or as short, as wide as you want to.

Choose TRUSSPAN and you can build a storage shed or a de luxe office at lowest *in-place* cost. Check the cost and your choice will be TRUSSPAN. Call your TRUSSPAN Dealer-Contractor or Truscon Representative for more detailed information.

REPUBLIC STEEL
TRUSCON DIVISION
Youngstown 1, Ohio

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New!

DUAL-LOCK... A high-load structural fastener

Here's a new high-load, positive-locking structural fastener that can cut your assembly costs on demountable buildings, shipping containers, aircraft cowlings, etc.

Check these Dual-Lock features:

- Double-acting take-up insures heavy closing pressure; provides pressure-tight seal when gaskets are used.
- Trigger action insures full open and full closed positions.
- Vibration-proof and impact-proof.
- Easily installed; can be recessed in panels or surface-mounted.
- Withstands 7000-lb. tension.

Write today for samples and 40-page catalog.

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PAYLOADER® operator runs

entire batch-mix plant

Consumers Cooperative Association, Kansas City, Mo., demonstrates how an adaptable "PAYLOADER" tractor-shovel, plus ingenuity, can cut the cost of bulk material handling in general and solve a batching and mixing problem in particular. This organization operates 12 bulk fertilizer plants in a nine-state area. Each of these plants mixes fertilizers—from a ton to a truckload—to the customer's specifications while he waits.

This fast, accurate and efficient batching operation begins with the Model H-25 "PAYLOADER" and its precise, hydraulic bucket control with which the operator takes the separate ingredients from their bins and weighs each one into a 1-ton scale hopper. By means of air-control valves and push-buttons grouped within his reach, he dumps the hopper, elevates the batch to the mixer, starts the mixer and dumps the fertilizer through a chute into the waiting truck. As soon as the scale hopper is emptied, he loads it with another batch so that the process is practically continuous. Up to 20 tons of fertilizer can be mixed and delivered per hour.

There's money-saving performance built into all "PAYLOADER" units—available in 8 sizes and more than 20 models (from 2,000 to 12,000-lb. operating capacity). Your nearby Hough Distributor has the right size to fit your material handling needs plus the finest service and parts facilities in the rubber-tired tractor-shovel business. Contact him soon or write for more complete information.

10-A-4

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY - INTERNATIONAL HARVESTER COMPANY

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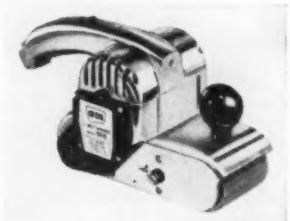
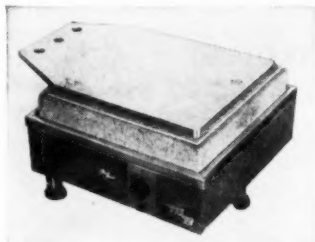
BELT SANDER
3-in. model weighs 7 lb



Driven by permanently lubricated gears, heavy duty Model 910 belt sander has a 4¼-amp universal motor which drives a 3-in. belt at 850 fpm. A fan directs a strong air flow over the belt and work, keeping both clean from dust and extending belt life. It has a balanced housing, is die-cast aluminum with contour handle and two-position knob, and a belt tension device. The belt edge is flush with the housing for sanding close to edges. Price with three sanding belts is $44.95. • **Wen Products, Inc.,** 5804-16 N. Northwest Highway, Chicago 31, Ill.

For more details circle NED-689 K1 on enclosed inquiry slip

VIBRATION TEST FIXTURES
offered in four table sizes



Through table redesign, the maximum usable frequency of Vibraplane horizontal vibration test fixtures has been increased by 60 per cent. Four models have 20 x 20, 30 x 30, 40 x 40, and 48 x 48-in. tables. Maximum usable frequency of the smallest model has been increased from 1200 to 2000 cps for large specimens, and above for small assemblies. Units consist of a magnesium specimen table which slides on a polished granite block, and is driven by a standard vibration exciter. Sliding friction is reduced by an air-oil film. Bolts attach test specimen to table. • **Textron Electronics, Inc.,** MB Electronics Div., 781 Whalley Ave., New Haven 8, Conn.

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THROW-AWAY GLOVES
offered in metal dispensing unit

Personnel engaged in painting, machine operation, mimeographing, or handling polyester resins, photographic materials, and many other products can protect their hands by wearing Handgard disposable plastic gloves. Worn either singly or in pairs, they are available in rolls of 144 gloves. When six rolls are ordered, a metal dispenser is furnished. Retail price is 19 cents per pair. • **Carl H. Biggs Co.,** 1547 14th St., Santa Monica, Calif.

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SAVE — MONEY — TIME — ENERGY

LEXCO HYDRAULIC LIFT TABLES

Capacities 500# to 2,000#.
Specials to 10,000#

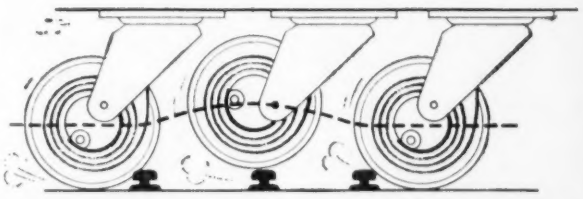
Portable, adjustable height, Hand or Foot Operated. For lifting and transporting heavy castings, dies, etc., to machines and presses.

Also Die Handlers — Strip Stock Handlers — Drum & Barrel Cradles.

LEXCO ENGINEERING & MFG. CORP.
23 W. Chestnut St. • Souderton, Pa.

For more details circle NED-693 K1 on enclosed inquiry slip

the caster that RIDES OVER THE BUMPS to save load, dolly, floors



BASSICK "FLOATING HUB"

These casters are the easiest, most economical way to add shock-absorption to dollies, carts, or trucks within their load range.

Exclusive, built-in Bassick "Floating Hubs" protect fragile loads, delicate instruments and equipment *and* they make for the easiest possible rolling over minor floor obstacles. Designed to stand up under power-pulled service. Can "Floating Hubs" smooth a handling problem for you? 1.20

THE BASSICK COMPANY
Bridgeport 5, Conn.
In Canada: Belleville, Ont.

Symbol of SW Excellence — Bassick — A DIVISION OF STEWART-WARNER CORPORATION

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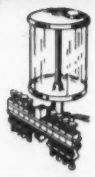
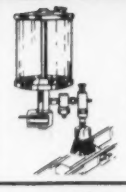
OIL-RITE LUBRICATING EQUIPMENT

A COMPLETE LINE...for better Automatic Lubrication

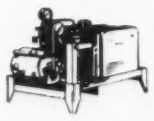
DROP FEED OILERS
Low cost, dependable lubrication. Drop feeding adjusted by needle valve. Any setting may be locked. Shut-off toggle starts or stops oil flow. Available in many models and capacities from ½ oz. to 1 gal. with ⅛" to ½" pipe thread or for remote mounting.



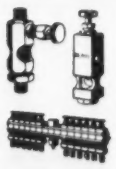
ELECTRO OILERS
Lubricates up to 24 points from single reservoir. Oil is fed by gravity to individually adjustable outlets. Solenoid connected across motor — oiling starts and stops with motor switch. Available in single or multiple feeds. Capacities 9 oz. to 1 gal.



ELECTRO CHAIN OILERS
Reduce wear — eliminate hand oiling. Feed oil through solenoid and sight feed valve to brush riding chain. Solenoid permits oiling only when chain moves. Drop feed adjustable. 9 oz. to 1 gal. capacity. Many styles and brush sizes.



DISPENSERS
Feed oil to elevated, distant and inaccessible points for dispensing through valves. Ideal for dusty and dirty surroundings. Air operated or motor driven gear pump circulating oiling system available in a wide range of sizes and tank capacities.

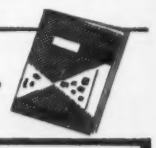


SIGHT FEED VALVES
For any application requiring adjustable visible needle valve control. Friction screw retains hairline adjustments. Large vented sight chambers for observing oil flow. Many styles, single or multiple feed.

LIQUID LEVEL GAGES
Rugged construction, with glass or plastic sights, revolvable shields and guarded vent hole. Can be taken apart for installation in tight places. Many styles and sizes in both plain and shielded, elbow or straight types.

OIL-RITE offers you BIG SAVINGS — Low cost oilers . . . automatic lubricating systems . . . ways to reduce costs and maintenance . . . you'll find them all in the complete OIL-RITE line. Backed by 25 years experience, OIL-RITE engineers will help you select the model to fit your application. Write today for a catalog on the COMPLETE OIL-RITE line. Consult us without obligation.

Items illustrated are only a few in the extensive Oil-Rite line. Complete catalog will be sent on request.



Take advantage of **Oil-Rite** Application Engineering Service

Oil Cups • Dispensers
Oiling Systems • Valves
Oil Gages • Chain Oilers

Oil-Rite CORPORATION
2364 Waldo Boulevard • Manitowoc, Wisconsin

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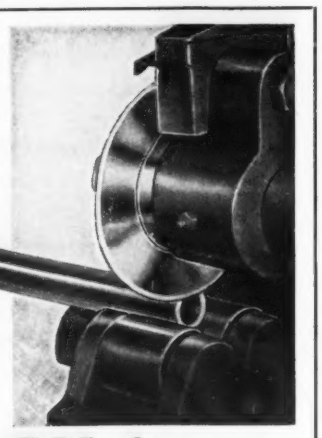
CONTINENTAL PIPE & TUBE CUT-OFF WHEELS



HI-ALLOY for LOW COST CUTS

More cuts between sharpenings—made of Shok-Resisto steel. For Continental and other rotary cut-off machines. Send for CUT-OFF WHEEL CHART . . . shows correct cutting bevels.

MACHINE RENTAL PLAN

Continental machine co. SINCE 1919

2345 W. NELSON ST. • CHICAGO 18, ILL.

For more details circle NED-695 K1 on enclosed inquiry slip

KENDALL/GOVERNAIRE

SEND FOR CATALOG ON

PRECISION AIR REGULATORS

Large balanced supply and relief valves provide rapid response with precise control plus maximum flow for minimum size.

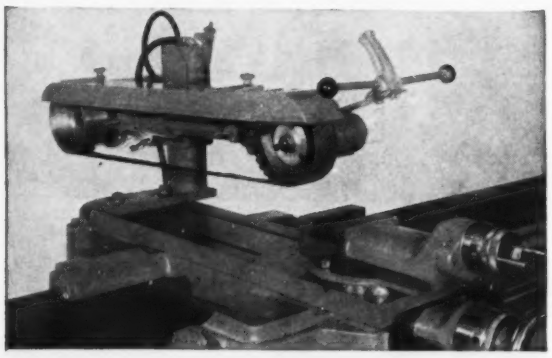
Kendall is a direct acting, spring actuated, bleed type valve. Governaire is pilot assisted. Both lines have a unique boost action with increased flow rate that offsets downstream pressure losses. Both are immune to supply pressure variations and suited to either high-flow or dead-end applications. With the Kendall/Governaire lines, Stratos offers the largest selection of standard and special precision pressure regulators, relays and volume boosters in the industry.

For your copy of the Stratos Engineering Manual and Data Sheets illustrated above, write

STRATOS®

A DIVISION OF FAIRCHILD ENGINE & AIRPLANE CORPORATION
Route 109, West Babylon, L. I., New York

For more details circle NED-696 K1 on enclosed inquiry slip



A SPECIAL APPLICATION OF THE 6-72 UNIT

The G & P 6-72 Abrasive Belt Unit is a machine in its own right, mounted on a stand or hung from the ceiling. But it lends itself ideally to hundreds of special applications, where it can become as handy as a third arm. Illustration shows the G & P 6-72 mounted on a lathe, courtesy Sidney Machine & Tool Co., of Sidney, Ohio. Write for informative Bulletin No. 104 and Price List.

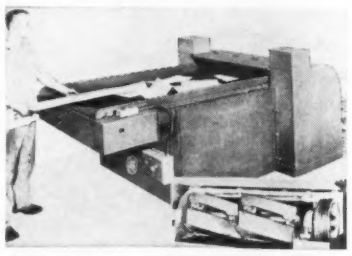
Grinding and Polishing Machinery Corp.

SUCCESSORS TO VONNEGUT MOULDER CORPORATION

2530-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

For more details circle NED-697 K1 on enclosed inquiry slip

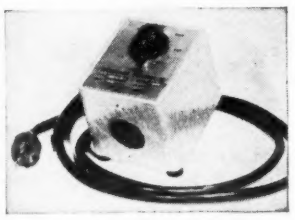
SHREDDING MACHINES
handle up to 4 tons per hour



Paper, corrugated board, leather, rubber, plastics, foils, and similar materials are reduced in size by these heavy duty shredding machines. They shred paper and board prior to reprocessing; automatically reduce empty bags, trim, and die cut waste for baling; and shred old records, production waste, and other material for disposal in incinerators. Model 40 has a feed opening of 39 in. and Model 60 is 57 in. wide. They produce shreds from ¼ to 1 in. wide and are suitable for continuous or intermittent use at rates from 2 to 4 tons per hour. Both are furnished with an integral feed conveyor, and can be equipped for automatic removal of shredded material by air conveyor. • **Industrial Shredder & Cutter Co.**, 707 S. Ellsworth Ave., Salem, Ohio.

For more details circle NED-698 K1 on enclosed inquiry slip

PERCENTAGE CONTROLLER
is stepless from 5 to 100 per cent

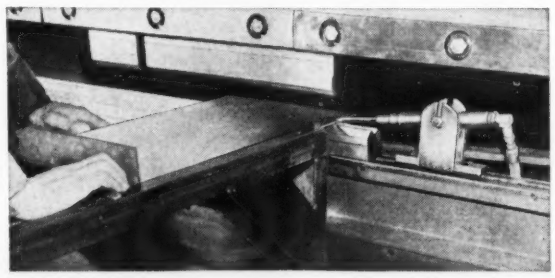


Smooth, infinite control of resistive loads to 15 amp enables the Therm pulsating type percentage controller to regulate temperatures uniformly in electrical heating devices. The plug-in unit has a stepless range of "on" and "off" ratios from 5 per cent to continuous energizing. It is suited for remote control use and where excessive vibration exists. Permanent magnet snap-action silver contacts, fuse protection against overload, and compensation for ambient temperature are built in. Heat sealing equipment, appliances, conveyors, and agitators are among its applications. Two and three-wire models for 120 and 240-v are offered. • **Therm Appliance Mfg. Co.**, St. Charles, Ill.

For more details circle NED-699 K1 on enclosed inquiry slip

POSITIONING GAGE
for aligning stock on press brake

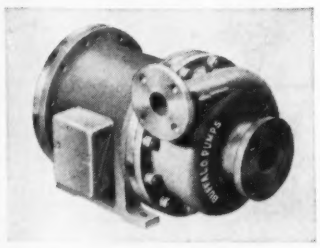
Operated by a foot pedal, the Air Finger positioning gage assures accurate alignment of sheet metal for precision bending on press brakes. Air pressure activates



the finger which moves out to indicate the correct placement of stock on the brake. It can be adjusted to a high degree of accuracy. Bar on the gage fits all standard press brakes and remains locked in position during operation. • **Chrom-O-Lite Co.**, 2701 E. 78th St., Minneapolis, Minn.

For more details circle NED-700 K1 on enclosed inquiry slip

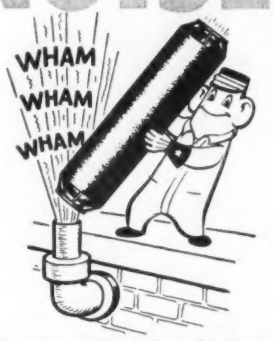
HERMETICALLY SEALED PUMPS
discharges range from 1 to 5 in.

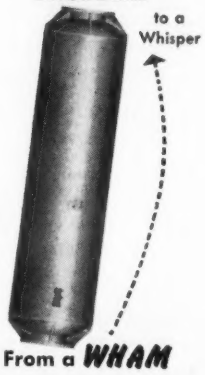


Mechanical seals and stuffing boxes are eliminated in line of totally enclosed and hermetically sealed centrifugal pumps for use with toxic, inflammable, or highly volatile liquids. The single suction units have enclosed, hydraulically balanced impellers and are suitable for transferring liquids in chemical, petrochemical, nuclear, marine, and other industries. Thirteen sizes have discharges from 1 to 5 in. at 120 psi and operate through temperatures from 40 to 250° F. Motor is protected from burn-out, and a Type 304 stainless steel can separates motor rotor cavity from stator windings on standard models. Pumped fluid dissipates motor heat. • **Buffalo Forge Co.**, 490 Broadway, Buffalo 5, N. Y.

For more details circle NED-701 K1 on enclosed inquiry slip

STOP THAT NOISE from Air, Steam and other gas discharges with BURGESS-MANNING SNUBBERS





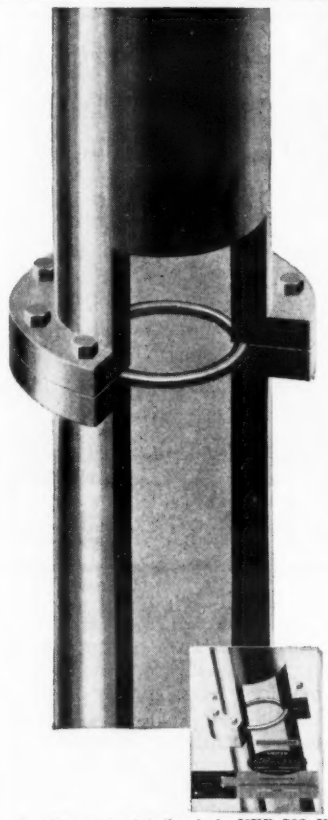
Stop that noise and profit through better neighbor and employee relations. Avoid compensation claims.

Burgess-Manning Snubbers are engineered to effectively correct your specific noise problem. There is no obligation for recommendations. Send us a description of your problem.

From a WHAM

Industrial Silencer Division
BURGESS-MANNING COMPANY
The Sound-Engineering People 9227 Sovereign Row, Dallas 7, Texas
Sales Engineering Representatives World-Wide

For more details circle NED-702 K1 on enclosed inquiry slip



POSITIVE SEALS

−452° to 3000° F.

United Self-Energized Metallic O-Rings*...

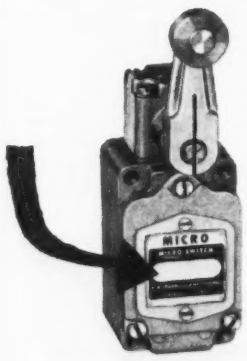
form permanent, non-corrosive, static seals under temperature extremes from −452° to 3000° F. and pressures from 10^{-4} mm Hg to 100,000 psi. Available in various metals and coatings (including Teflon** and silver) ¼" O.D. dia. to any size and configuration. United also makes non-vented and pressure-filled O-rings. United Metallic "O" Rings, manufactured by United Aircraft Products, Inc., Box 1035, Dayton, Ohio.

See United Metallic O-Ring Catalog in Sweet's Product Design File or write for Free Handbook

*Patents 2,809,269; 2,837,360
**DuPont registered trademark

For more details circle NED-703 K1 on enclosed inquiry slip

MICRO SWITCH Precision Switches



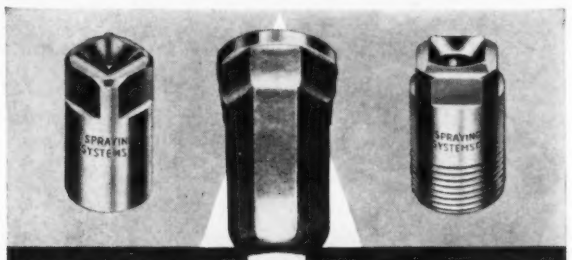
Neon Check Light... Signals Operating Position!

The new "LS" Limit Switch has a translucent plastic insert and enclosed neon light that tell at a glance whether the switch is functioning. Perfect answer for checking switches that must be located in inaccessible or poorly lighted areas, or where it is important to be able to check a large number of limit switches on a production line in minimum time. The new switch is an addition to MICRO's line of compact, high capacity "LS" Limit Switches.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

For more details circle NED-704 K1 on enclosed inquiry slip



WIDE ANGLE 93° to 115°

A NEW DESIGN IN SQUARE SPRAY *FullJet* SPRAY NOZZLES

For numerous multiple-nozzle applications, because the square spray patterns "fit together", here are nozzles that make possible uniform, complete coverage with fewer nozzles per manifold. This is the latest design in Spraying Systems' very complete line of FullJet nozzles in square and standard-circular spray patterns. For complete information write for Bulletin 105 and Catalog 24.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

AMERICA'S MOST COMPLETE LINE OF SPRAY NOZZLES

For more details circle **NED-705 K1** on enclosed inquiry slip

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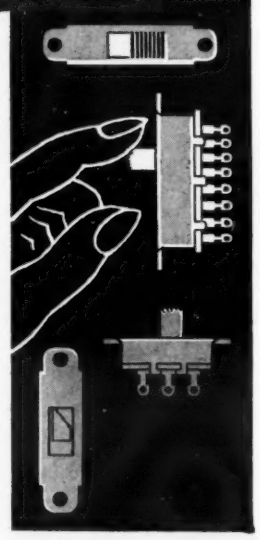
STACKPOLE *S-L-I-D-E* SWITCHES

FOR THE Modern TOUCH



Inexpensive . . . easy to use . . . these tiny, dependable switches bring new operating convenience and sales appeal to modern electrical products. They're available in over 15 basic types—the most complete line—with ratings and features to match your requirements.

- ½- to 6-amp. U.L. Ratings
- 9 Attractive Knob Colors
- 1 to 4 Positions
- 1 to 3 Poles
- Maintained or Momentary Contact
- Pushbutton-operated Types
- Lug or Printed Wiring Terminals

low cost SNAP SWITCHES

Sturdy, low-cost snap action switches for pushbutton assemblies, record players, etc. 1-6 amp U.L.I. ratings.

For Details, write, *Electronic Components Division*
STACKPOLE CARBON CO., St. Marys, Pa.

For more details circle **NED-706 K1** on enclosed inquiry slip

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WITH A GRACO *FAST-FLO* PUMP

Transport your liquids or semi-liquids to point of use with a Graco Fast-Flo Pump . . . *and show tremendous savings by cutting unnecessary plant traffic.*

Air powered, the Fast-Flo doesn't require expensive electrical wiring. Fits all standard drums.

Some plants handle up to 25 different materials this economical Graco way.

Investigate today. See how you can profit with Graco direct-from-drum transfer pumps in your plant.

GRACO ENGINEERS & MANUFACTURERS / **GRAY COMPANY, INC.**
107 Graco Square
Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle **NED-707 K1** on enclosed inquiry slip

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TEMPERATURE CONTROLLER
time proportioning type

Plastic molding and heat sealing machines, heated dies, and ovens and cooking vessels are applications for this temperature controller. A safety feature incorporated in its mechanism prevents starting the machine before material is up to operating temperature, thus preventing damage to the machine. Controller will also shut down the machine if the heating element fails to maintain the correct operating temperature. Heat time is proportioned to maintain optimum temperature at all times. • **Alnor Instrument Co.**, 420 N. La Salle St., Chicago 10, Ill.

For more details circle **NED-708 K1** on enclosed inquiry slip

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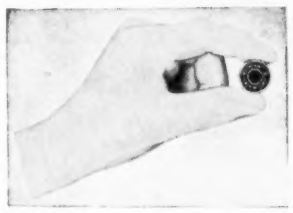
LINT-FREE NYLON GLOVE
for delicate handling operations



Contamination of critical components by lint, skin oils, fingerprints, and other hand-carried soils is prevented by wearing the Ambassador impregnated work glove. It is made entirely from nylon, impregnated with a formulation that prevents transfer of perspiration to the work. Small, medium, and large sizes are made in pink, blue, and white colors in men's and women's styles. • **Standard Glove Co. of New Jersey, Inc.**, 109 Frelinghuysen Ave., Newark, N. J.

For more details circle **NED-709 K1** on enclosed inquiry slip

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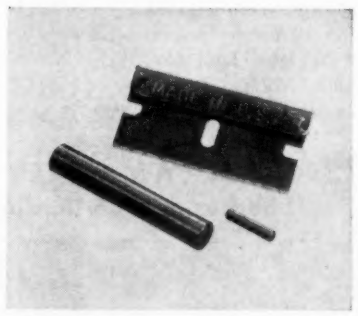
DOWEL PINS
made of stainless steel



Off-the-shelf delivery of stainless steel dowel pins is offered in minimum or large quantities, in sizes ranging from 1/32 to ½ in. with increments of 1/64 and 1/32 in. Tolerance is ±0.0002 in. Type 416, 420, 440, and drill rod pins, hardened and ground to specification, are made to MS prints. Special diameters, lengths, chamfers, bevels, materials, heat treatments, and finishes can be ordered. • **Star Stainless Screw Co.**, 699 Union Blvd., Paterson 2, N. J.

For more details circle **NED-710 K1** on enclosed inquiry slip

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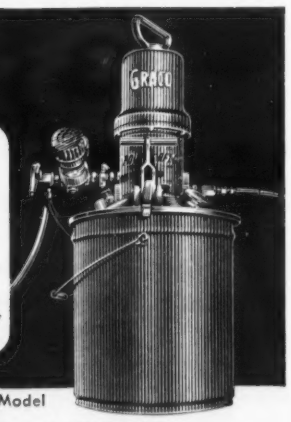
Announcing the new **GRACO MONARK HYDRA-SPRAY**



Production Model

CHECK THESE FEATURES!

1. A low cost 5 gallon airless unit.
2. Weighs only 46 pounds, yet does the work of units much heavier.
3. Instant-latch cover and ease of cleaning gives the Monark "greased lightning" color changing speed!
4. Airless operation eliminates overspray and bounce-back . . .
5. Handles anything from protective coatings to precise final finishes.
6. Works direct from 1 or 5 gallon containers.

WHAT MORE COULD YOU WANT!

For more details, see your GRACO dealer or write:

TRY IT BEFORE YOU BUY!

GRACO ENGINEERS & MANUFACTURERS / **GRAY COMPANY, INC.**
107 Graco Square
Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle **NED-711 K1** on enclosed inquiry slip

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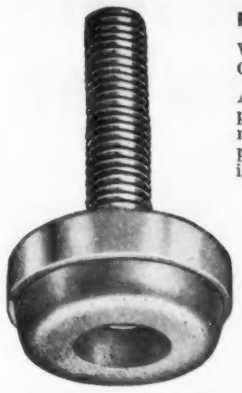
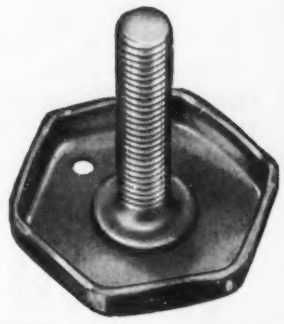
OHIO ADJUSTING SCREWS



FB ADJUSTABLE FEET
WITH NON-MARKING GRAY PAD

A handsome, sturdy part that provides suction to hold equipment in place, absorb vibration, prevent marring of floors and improve product appearance.

Thread sizes 5/16-18 to ½-13



FT ADJUSTABLE SCREWS

Large hex head gives broad cupped base for easy hand adjustment. Used extensively on appliances as adjustable feet and as hand adjusting screws.

Thread sizes ¼-20 to ½-13

OHIO ADJUSTING SCREWS

OVER 50 YEARS OF BETTER FASTENING
Samples and information available upon request
THE OHIO NUT & BOLT CO.
14 First Avenue • Berea, Ohio

For more details circle **NED-712 K1** on enclosed inquiry slip

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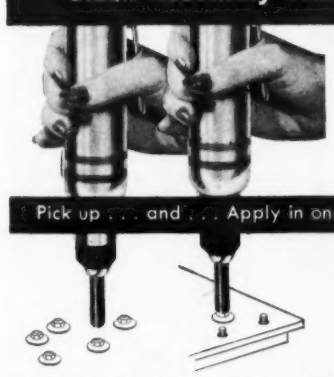
In addition to low price and vibration-proof fastening–

PALNUT® LOCK NUTS and FASTENERS
Slash Assembly Time and Costs!



High-speed, automatic assembly provided by PALNUT FASTENERS and PALNUT WRENCHES

Magnetized PALNUT wrench picks up PALNUT Fastener from supply tray. PALNUT is held firmly by magnet for easy, fast starting and tightening.

PALNUT Lock Nuts and Fasteners assemble easily and fast with any standard power or manual tools . . . extra-fast with specially-designed PALNUT magnetized wrenches. No fumbling with hand starting. Spin on freely. Precise quality control assures uniformly high tightening torque.

PALNUT Fasteners can also eliminate lock washers, flat washers, sealer washers, cotter pins . . . and extra operations such as threading, grooving, drilling. Write for catalogs and free samples.

THE PALNUT COMPANY
DIVISION OF UNITED-CARR FASTENER CORPORATION
45 Glen Road, Mountainside, N. J.
In Canada:
P. L. Robertson Co., Ltd., Milton, Ont.

PALNUT® LOCK NUTS and FASTENERS

For more details circle **NED-713 K1** on enclosed inquiry slip

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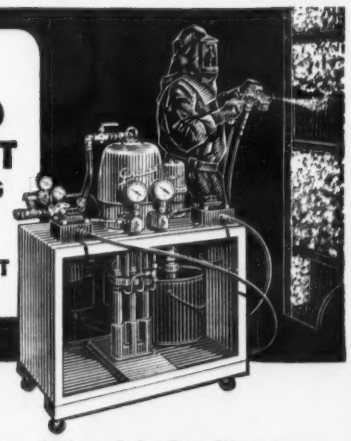
It Will Pay to Investigate **GRACO HYDRA-CAT PROPORTIONING EQUIPMENT FOR DUAL COMPONENT MATERIALS**



● A complete system designed for handling 2-component, chemically reactive materials, *the Hydra-Cat sprays most epoxies, polyesters and polyurethanes.*

An air-powered unit pumps the 2 materials, proportions them in the exact ratio, filters them and powers their transfer through flexible hose to a dispensing head. There they are blended, homogenized and applied by airless spray.

This elimination of atomizing air for spraying cuts waste and increases safety.

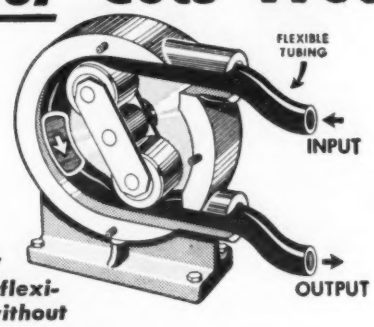
Write for complete details.

GRACO ENGINEERS & MANUFACTURERS / **GRAY COMPANY, INC.**
107 Graco Square
Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

For more details circle **NED-714 K1** on enclosed inquiry slip

The Pump That *Never* Gets Wet



Fluids flow through a flexible tube without contacting the pump.

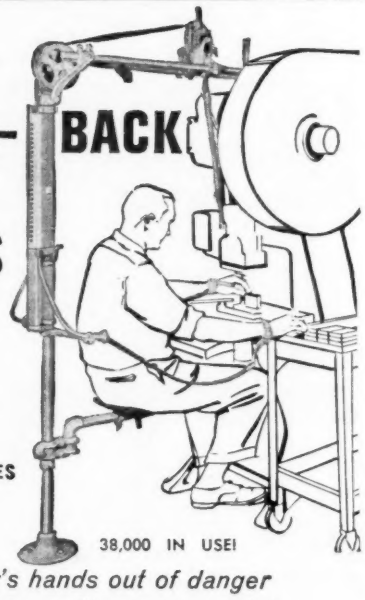
CAPACITIES UP TO 185 G.P.H.

RANDOLPH PUMP

For Literature and prices, write the
RANDOLPH CO.
1018 Rosine Street, Houston 19, Texas
JAckson 6-2091

▲ For more details circle **NED-715 K1** on enclosed inquiry slip ▲

POSSONS PULL-BACK SAFETY DEVICES



For:
PUNCH PRESSES
TOGGLE PRESSES
PRESS BRAKES
EMBOSSING PRESSES
DROP HAMMERS

38,000 IN USE!

Pulls operator's hands out of danger if he forgets or if press repeats!

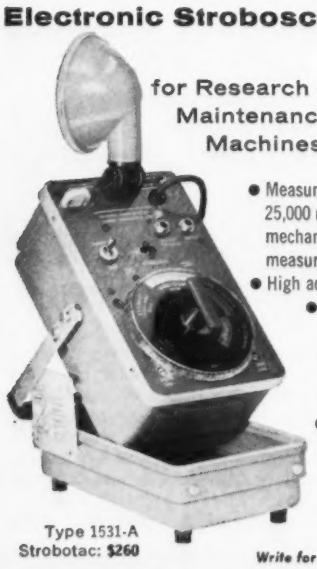
PULL-BACK ACTION is performed by steel-cored cables, fastened to wrist bands on the operator's hands. The pull-back is actuated by a multiplier (gear, rack and cam), connected by a rod to the press ram below any possible breaking point. For free aisle space, use beam or ceiling attached type. FREE CATALOG—Shows how POSSONS Safety Devices are applied to various types of presses. Engineering service available.

THE POSITIVE SAFETY MANUFACTURING CO.
4404 Perkins Avenue • Cleveland 3, Ohio • UTah 1-1878
In Canada: SAFETY SUPPLY COMPANY • Toronto, Ontario

▲ For more details circle **NED-716 K1** on enclosed inquiry slip ▲

The G-R STROBOTAC® Electronic Stroboscope

for Research - Design-Production Maintenance On Fast-Moving Machines and Equipment



- Measures speed directly from 110 to 25,000 rpm; indirectly to 250,000 rpm; no mechanical connection to devices being measured
- High accuracy of 1%
- Optically slows down high-speed motion; equipment appears to be moving as slowly as one rpm, if desired; see machines in really S-L-O-W motion
- High-intensity, narrow-beam flash gets into darkest corners in machinery

Profit by experience of thousands — get all of the details

Type 1531-A Strobotac: **$260**

Write for the New STROBOTAC BULLETIN

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. **NEW YORK AREA** 1000 N. Seward St. **LOS ANGELES 38** 8055 13th St., Silver Spring, Md. **WASHINGTON, D. C.** 1150 York Road, Abington, Pa. **PHILADELPHIA** 1186 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO** 6605 W. North Ave., Oak Park, Ill. **CHICAGO** In **CANADA:** 99 Floral Parkway, **TORONTO 18**

▲ For more details circle **NED-717 K1** on enclosed inquiry slip ▲

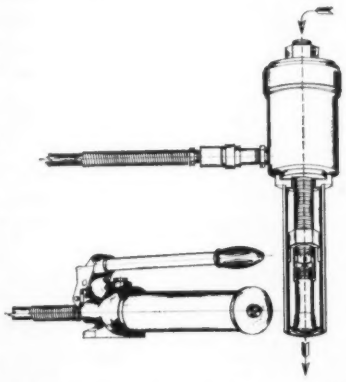
FLAW DETECTOR KIT
uses water soluble materials

Surface cracks, flaws, defects, and porosity in metallic or nonmetallic solids are detected by the Seal-Lock Fluorescent detector. It locates hair-line cracks and leaks in aluminum, copper, plastics, stainless steel, and other materials. Portable unit utilizes black light to activate sensitive fluorescent materials which penetrate defects by capillary action. They appear as bright glowing lines or spots under the light. Water soluble materials are removed with a water bath. Detector can be used with any black light source or with the B-100 unit contained in the FD-100 kit. • **U. S. Casting Repair Corp.**, 6432 Edmund St., Philadelphia 35, Pa.

▲ For more details circle **NED-718 K1** on enclosed inquiry slip ▲

EXTRACTING TOOL
removes pins, tubes, shafts, studs

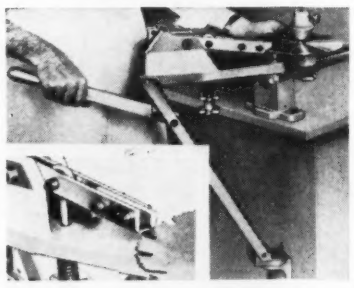
Pulling on the collet of this hand hydraulic extracting tool (right) tightens its hardened steel jaws on the workpiece to be removed. Tool is available as wrench operated manual Model 50 with 1/4 to 1/2-in. capacity for removing pins, tubes, shafts, bushings, and studs, and as manual Model 100 with 1/2 to 1-in. capacity. Hydraulic operation is by hose-connected hand pump (left) or portable motor driven pump. Tool is rated to 10-ton pull.



• **Wright Tool Co.**, 4314 N. Woodward Ave., Royal Oak, Mich.

▲ For more details circle **NED-719 K1** on enclosed inquiry slip ▲

CIRCULAR SAW SETTER
handles 5 to 38-in. diameter saws



Precision trip hammer assures uniform set on Model 359 bench type circular saw setter which accommodates 5 to 38-in. diameter saws with bores from 1/2 to 2 1/2 in. Force of hammer blow can be varied from very light to very heavy. The reversible hammer has a narrow, tapered striking surface on one end for fine-tooth saws and a wide, blunt surface for setting coarse teeth. Hammer trips automatically as handle lever is operated. Saw blade is rotated manually to bring tooth into position. • **Foley Mfg. Co.**, 3300 Fifth St. N.E., Minneapolis 18, Minn.

▲ For more details circle **NED-720 K1** on enclosed inquiry slip ▲

URETHANE FOAMING MACHINE
foam flow rate is dial selected

Accurate reproducible ratio settings are assured on Viking Mark III-A and IV-A rigid urethane foaming machines. User simply dials the pounds-per-minute foam flow rate. Spray or pour head is self-cleaning and stays clean whether used constantly or intermittently. Machine can be equipped with a revolution counter or automatic-resetting cycle timer to eliminate overfills and underfills. It measures 25 x 22 x 19 in. and weighs 175 lb. Machines are used to make urethane foam insulating, sound-deadening, cushioning, structural reinforcement, and buoyancy items for a wide range of products. • **Chase Chemical Corp.**, 3527 Smallman St., Pittsburgh 1, Pa.

▲ For more details circle **NED-721 K1** on enclosed inquiry slip ▲

Norblo arrangement #8-A fan

EXHAUST FANS FOR DUST, FUME AND AIR HANDLING

Norblo high speed fans deliver top efficiency and service because they're designed and built by a manufacturer of dust collection systems, proved by more than 40 years of heavy-duty operations. ■ Rugged construction, statically and dynamically balanced wheels, perfected manufacturing techniques, assures you of dependable service on all types of materials. ■ Bulletin 1002 will give complete specifications of types and sizes available. Buell Engineering Company, Northern Blower Division, 6435 Barberton Ave., Cleveland, Ohio. ■ Electric Precipitators • Cyclones • Bag Collectors • Combination Systems • Fans • Classifiers • Discharge Valves

buell Norblo®

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ROLLPIN® SHOP KIT $12.00

The Rollpins in this handy compartmented kit serve the function of taper pins, straight pins, set screws, rivets, dowels, cotter pins, etc. They're slotted, chamfered, tubular spring pins that exert constant pressure against the walls of the holes into which they're driven. They won't loosen even under severe vibration. Over 700 Rollpins; diameters from 1/16" to 1/2"—lengths from 3/16" to 3 1/4".

We guarantee you'll find Rollpins the easiest, quickest solution to hundreds of fastening problems in machine, repair and prototype assembly shops.

Send for Rollpin Kit #300 today. Mail check or purchase order for $12.00 (we pay postage). No C.O.D.'s please. Write: Dept. R57-1037

ROLLPIN TRADEMARK

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Rd., Union, New Jersey

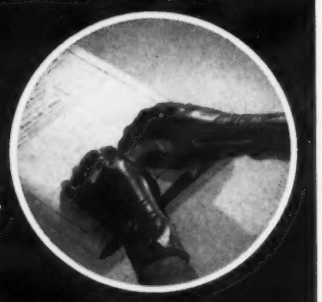
▲ For more details circle **NED-723 K1** on enclosed inquiry slip ▲

Read Braille With Gloves On ??

CHARCO Proves It Can Be Done With

NEW SUPER SENSITIVE *Flexi-Touch* MILLED NEOPRENE **GLOVES**

CHARCO NEO-SOL®



AVAILABLE IN SMOOTH & GRIP-SAF HAND FINISH

So Sensitive and Comfortable, there's Hardly the Feeling of Wearing Gloves at all.

POSITIVE LIQUID PROTECTION! NO SULFUR CONTAMINATION!

Resistance to Broader Range of Chemicals Than Offered by Natural Rubber Latex Gloves.

IDEAL FOR ELECTRONIC AND OTHER SMALL INSTRUMENT WORK

WRITE FOR BROCHURE AND NEW INDUSTRIAL GLOVE CATALOG

CHARLESTON RUBBER COMPANY
18 STARK INDUSTRIAL PARK — CHARLESTON, S. C.

▲ For more details circle **NED-724 K1** on enclosed inquiry slip ▲

CF&I REALOCK FENCE

...trespassers hate it!

This strong, long-lasting fence is your best protection against losses caused by pilferage, vandalism and arson. Available in either top-grade galvanized steel or aluminum, with or without barbed wire tops. Corrosion-resistance helps maintain good appearance for years to come. Write for Catalog F-915.

▲ For more details circle **NED-725 K1** on enclosed inquiry slip ▲

CF&I BLACK SATIN WIRE

can cut your production costs

The powdery oxide finish on CF&I Black Satin Oil Tempered Wire prevents "flake-off" and constant readjustment of your set-ups. It also has the uniformity that reduces "stop-and-go" operations. Available in extra-long lengths to reduce scrap loss. Color-tagged for easy inventory control and reordering. Write for Catalog W-201.

▲ For more details circle **NED-726 K1** on enclosed inquiry slip ▲

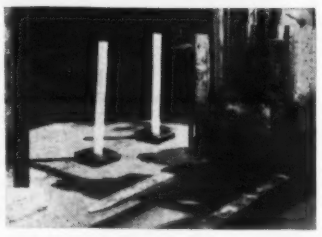
CF&I-WICKWIRE SPRINGS *are designed*

to solve problems

The easiest way to solve a spring problem is to turn it over to CF&I. Springs are supplied in a wide range of sizes and types—extension, torsion, flat and special. If the standard models won't do the job, CF&I's Spring Design and Development Department will be happy to design prototype springs or formed wires to meet your requirements. Write for Catalog S-500.

▲ For more details circle **NED-727 K1** on enclosed inquiry slip ▲

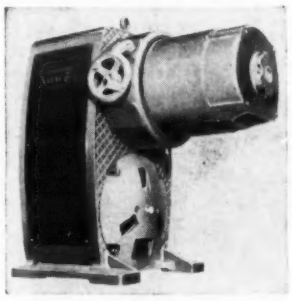
SAFETY LANE MARKERS
easily stored and carried



Tube lengths from 12 to 72 in. in 12-in. increments are available in these traffic safety lane markers. The interchangeable yellow tubes are set in separate heavy 10-in. square molded bases. Colors are molded in. The easily stored, transportable markers are useful for marking fork truck lanes in plants. They will accommodate presently used flags, warning signs, and flashing lights. • **Stokes Molded Products, Inc.**, Taylor at Webster Street, Trenton 4, N. J.

▲ For more details circle **NED-728 K1** on enclosed inquiry slip ▲

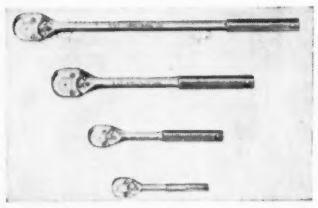
VARIABLE SPEED DRIVE
five sizes from 1 to 30 hp



Stepless speed changes within standard speed ranges of 2:1 to 10:1 are provided by the broadened Vari-Tex speed changer line. Operating speeds range from 1.8 to 4460 rpm. Vertical, horizontal, and 45-degree assemblies with dripproof, totally enclosed, explosionproof, Superseal, or Synduction motors are offered in five sizes from 1 to 30 hp. Mechanical, electrical, and pneumatic control options give the units versatility in measuring process or product variables by means of standard sensing and signalling devices. These variables include liquid level, temperature, pressure, tension, speed, position, weight, and humidity. Electrical and mechanical modifications for special uses, and single, double, or triple reduction units can be provided as an integral part of the changers. • **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle **NED-729 K1** on enclosed inquiry slip ▲

REVERSIBLE WRENCH
ratchet type has narrow head



Series 90 reversible ratchet wrench is available with ¼, ⅜, and ½-in. square drives and two handle lengths in the ½-in. drive. Narrow head wrench has a thumb-operating reversing lever, ball and spring reversing lever stop, and easy ratcheting action. All wear parts are replaceable. • **Armstrong Bros. Tool Co.**, 5200 W. Armstrong Ave., Chicago 46, Ill.

▲ For more details circle **NED-730 K1** on enclosed inquiry slip ▲

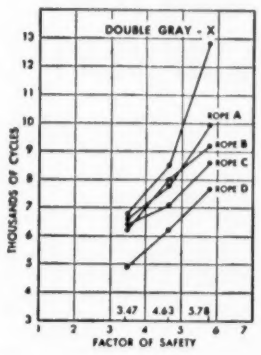
CF&I-WISSCO WOVEN WIRE BELTS

...ideal for process-conveying

Some of America's most famous industrial names ride on durable CF&I-Wissco Woven Wire Belts. They're resistant to both heat and corrosion and are available for either chain or friction drives, in a wide range of metals and specifications. Open mesh construction allows uniform circulation of air, gases or liquids. Write for Catalogs MS 606 and 607.

▲ For more details circle **NED-732 K1** on enclosed inquiry slip ▲

CF&I-WICKWIRE DOUBLE GRAY®-X



lasted 45% longer

All test ropes were ½" 6 x 25 FW Preformed E.I.P.S. Lang Lay IWRC.

In extensive tests, five competitive wire ropes—all made by major manufacturers—were tested to destruction.

Double Gray-X showed greater resistance to bending fatigue at all three safety factors used. At the highest safety factor, Double Gray-X lasted 45% longer than the average of other ropes tested.

▲ For more details circle **NED-733 K1** on enclosed inquiry slip ▲

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- As a nationwide steel company, CF&I has plants, warehouses, sales offices and distributors strategically located from coast to coast. CF&I manufactures all the steel products shown here—plus hundreds more used by all segments of industry.
- As an integrated manufacturer of steel products that meet high American standards, CF&I rigidly controls quality at every stage of production—from the mine to the finished product.
- As an experienced and well-known steelmaker, CF&I knows full well that the products of tomorrow must be developed today. The continuing aim of our research programs is to provide a constant stream of new and better steel products that will last longer and thereby cut production costs.

Discover the diversity of CF&I Steel Products—write for your free copy of Catalog G-50 Rev. Or, for more detailed information, contact your nearby CF&I sales office.

Plants at: Pueblo, Colo. • Oakland and South San Francisco, California • Buffalo, N. Y. • Palmer, Massachusetts • Birdsboro, Pennsylvania • Roebling, New Jersey • Trenton, New Jersey

CF&I STEEL MADE IN U.S.A.

The Colorado Fuel and Iron Corporation
Denver • Oakland • New York
Sales Offices in Key Cities

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PERMANENT IDENTIFICATION
Every Material...
Every Application!

Markal®
Paintstik MARKERS
Permanent · Fadeproof · Weatherproof

16 Types To Serve You!

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MARKAL—*The Mark of Quality*

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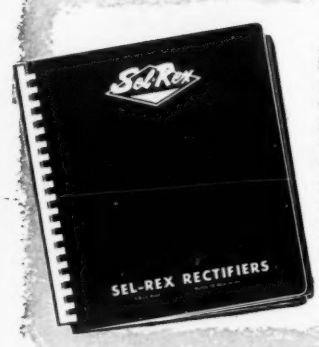
FREE TECHNICAL DATA ON SEMICONDUCTOR RECTIFIER EQUIPMENT



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NEW! Announcing a full line of
PERMATEX COATING COMPOUNDS
(stronger than concrete)

★ Easily applied—trowel, brush or spray
★ Four special products to meet every need
★ Four attractive colors
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This line of Permatex Coating Compounds, as all Permatex Products... sealants, adhesives, lubricants, degreasers, solvents... are available from quality Industrial Distributors.

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SEALANTS • ADHESIVES • LUBRICANTS
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INSULATING RIVETS
redesigned with larger oval heads

Insulet semitubular metal rivets of aluminum, brass, steel, and other metal have shank and under-head surfaces uniformly covered with nylon insulation for 5000-v protection. They fasten two metal parts together that must not be connected electrically. Rivets are redesigned with larger diameter oval heads for increased bearing area. Redesign minimizes cold flow of nylon at elevated temperatures, clamps insulated stacks tighter, and contributes to ease of automatic feeding. Nominal shank diameters available are 1/16, 3/32, 1/8, and 3/16 in. Shank lengths range from 0.090 to 0.320 in. Samples are available. • **Pylon Co.**, 200 N. Main St., Attleboro, Mass.

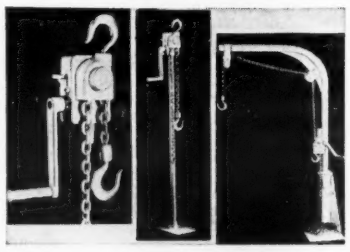
▲ For more details circle NED-743 K1 on enclosed inquiry slip ▲

RECORDING CHARTS
multipurpose heat-sensitive type

Fine trace lines, good dimensional stability, and a high degree of abrasion resistance are provided by heat-sensitive recording charts. They afford accurate signal reproduction, regardless of chart speed, range of heat, or type of recorder. Charts are durable in handling and resist pressure. Printing techniques permit accurate reproduction through a variety of duplicating methods. Application is in industrial, military, electronic, and research fields. • **Graphic Controls Corp.**, 189 Van Rensselaer St., Buffalo 10, N. Y.

▲ For more details circle NED-744 K1 on enclosed inquiry slip ▲

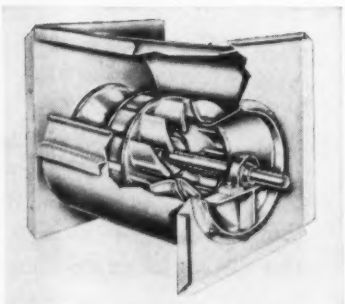
HAND-OPERATED HOIST
6½-lb unit is self-locking



Lubricated and sealed for life Mite-Y Atlas ½-ton hoist has an enclosed four-part lifting mechanism that is impervious to sand, dust, ice, and salt spray. As the load is lifted, it is automatically locked. Unit has drop forged swivel hooks and connector, two speed handle for fast or slow lifting, 40-in. lift with 4-ft length of chain, and ability to lift or pull in either vertical or horizontal direction or at any angle. Weighing only 6½ lb less handle and chain, the hoist is available in standard crank type, wheel and hand chain type, and crane type for truck or dock mounting. Portable stand is offered for lifting uses. • **Lloyd B. Cogswell Mfg. Co.**, 362 El Paso St., Springfield, Mass.

▲ For more details circle NED-745 K1 on enclosed inquiry slip ▲

AERODYNAMIC FANS
for varied air handling uses



Static pressures of ¼ to 9 in. are developed by the SQ Series of Airfoil industrial air handling fans. Volumes range up to 15,000 cfm in seven models with single and double inlets. Aerodynamic design of wheel and housing enables fans to operate quietly at low speed with high efficiency, using small motors. Heavy gage steel housing can be positioned for discharge in any one of four directions without changing bearings. Wheels are cast aluminum alloy, balanced statically and dynamically, and locked to the shaft with a Taperlock bushing. Sizes from 8¾ to 18¼ in. are belt or direct driven. • **Chicago Blower Corp.**, 9800 Pacific Ave., Franklin Park, Ill.

▲ For more details circle NED-746 K1 on enclosed inquiry slip ▲

DON'T SEND A BOY TO DO A MAN'S JOB—
SPECIFY KNU-VISE
NEW VERTICAL CYLINDER CLAMPS

Tough, rugged and designed to do a man-sized clamping job—that's the *new* line of *vertical cylinder* air or oil operated clamps now being manufactured by Lapeer Knu-Vise.

The all new Heavy Duty AOV Series, features three basic sizes of 200, 400 and 800 lbs. clamping force respectively. Each size may be specified with either solid (inset) or channel toggle bars and spindle assembly (top).

Like all Knu-Vise products these powerful new vertical cylinder heavy-duty clamps were designed to give outstanding performance under the toughest manufacturing conditions. Such features as HARDENED AND GROUND BEARING BOLTS . . . HARDENED STEEL BUSHINGS . . . SELF-LOCKING NUTS FOR "TAKE-UP OF PLAY" . . . TOGGLE BARS MADE FROM COLD ROLLED STEEL . . . and EASY PARTS REPLACEMENT all assure you that when you specify Lapeer's KNU-VISE PRODUCTS you're "sending a man to do a man's job." Write today for complete information.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

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4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD.
1131 Pettit Road, Burlington, Ontario
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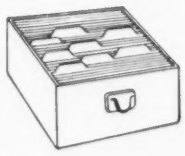
REULAND
HYDRAULIC PUMP MOTOR
features SPLINE-COUPLED hook-up!

INSTALLS IN 1/10 ORDINARY TIME—ALWAYS IN PERFECT ALIGNMENT

You can hook up a Reuland motor and any standard make hydraulic pump in a matter of only seconds. All you have to do is slip the spline coupling onto the motor's spline shaft and attach the pump flange to the endbell.

Absolutely perfect alignment is assured. There is no tinkering around with a mounting platform and your finished job always has a sleek, well-designed appearance. For all pumps. Coupling supplied with motor.

A Typical Example From the Free
REULAND SPECIAL-MOTOR LIBRARY!



Don't ever pay for special-motor development before you check this valuable library. Contains data on hundreds of unique motors—one of which may already be made-to-order for your needs. Originally designed for special uses, now available as standard motors to help you save expensive development work and put you in production faster. WRITE FOR YOUR FREE BOOKLET ON HOW TO USE THIS VALUABLE LIBRARY!

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- "Through-Shaft" magnetic disc brakes
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Free general catalog of the COMPLETE Reuland line of Standard and Special Motors sent on request.

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REULAND ELECTRIC COMPANY
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Distributors in all principal cities
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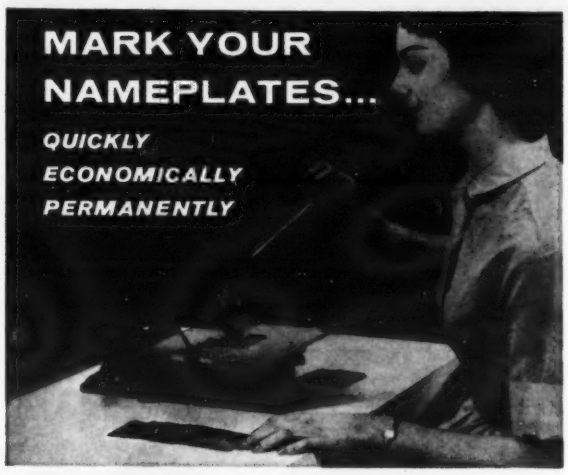


GTS NAMEPLATE DETAIL PRESSES

Schmidt Nameplate Detail Presses give you a speedy, inexpensive and permanent way to mark nameplates. They are easy to operate, handle a wide variety of nameplate sizes and produce clean, sharp impressions, automatically spaced and aligned. Write for details today.

GTS SCHMIDT

IF IT'S WORTH MAKING, IT'S WORTH MARKING
GEO. T. SCHMIDT, INC.
Engraved Marking Tools • Nameplate Marking Equipment • Embossing Dies • Special and General Purpose Marking Machines

1800 Belle Plaine, Chicago 13, Illinois • Phone EA 7-0300

For more details circle NED-749 K1 on enclosed inquiry slip

SILASTIC RTV

SILICONE RUBBER SEALANT

SILASTIC® RTV 731, the silicone rubber adhesive that sets up at room temperature, is a remarkably versatile general purpose sealant. Suitable for a wide range of applications, Silastic RTV seals easily . . . durably . . . and without waste.

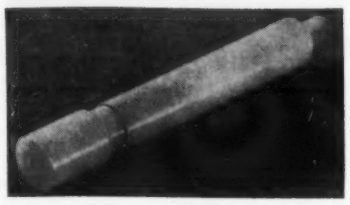
It clings without sagging — even to vertical surfaces. Adheres permanently to metal, plastic, rubber. Maintains a liquid or airtight seal. Resists heat, humidity, cold or weathering.

For Full Information, write Dept. A822a.

first in silicones
Dow Corning CORPORATION
MIDLAND, MICHIGAN

For more details circle NED-750 K1 on enclosed inquiry slip

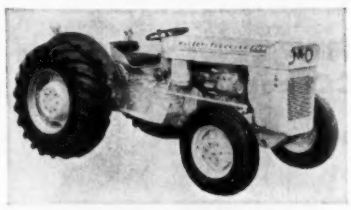
PLASTIC LIQUID DASHPOTS
absorb 1 to 886,000 lb-in. shocks



Plastic liquid dashpots, designed to fit specific envelope areas and thus save weight, space, and cost, are offered in 66 models measuring from 1⅛ in. long by ½-in. diameter to 70 in. long by 8½-in. diameter. These high production shock absorbers will absorb energy from 1 lb-in. for the smallest to 886,000 lb-in. for the largest. They incorporate a step tubular design for rigidity under high loads, and are made in single or double action types with various end fittings. • **Taylor Devices, Inc.,** 200 Michigan Ave., North Tonawanda, N. Y.

For more details circle NED-752 K1 on enclosed inquiry slip

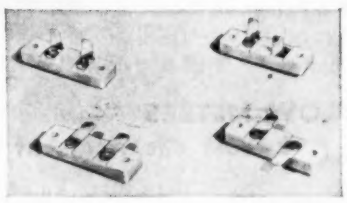
DIESEL INDUSTRIAL TRACTOR
with wide range of attachments



Powered by 40-hp 3-cylinder diesel engine, Series 203 and 205 industrial tractors have instant reverse and a smooth torque converter drive. With fuel consumption averaging less than 1½ gal per hour of low-cost diesel oil, engine has a maximum governed speed of 2000 rpm and can absorb substantial loads down to 1300 rpm before it is necessary to shift to low gear. There are four speeds forward and four reverse. Take-off hydraulic power is available to operate such attachments as loaders, multipurpose blades, angle dozers, post hole diggers, backhoes, mowers, scoops, and a cable layer. • **Massey-Ferguson, Inc.,** Block 1000 S. West Street, Wichita, Kans.

For more details circle NED-753 K1 on enclosed inquiry slip

BIMETAL THERMOSTAT
contacts open with heat rise



Acting as a thermal safety switch, the Model MS bimetal thermostat has a useful operating range from 70 to 600° F. At the time of its installation in an appliance or other device, an adjusting set screw permits trimming the calibration to close limits. The low cost unit has single-pole single-wire controls, and its contacts open with a temperature rise. It has a ceramic body, push-on lugs, and silver contacts. Terminals may be set at any angle. • **American Thermostat Corp.,** South Cairo, N. Y.

For more details circle NED-754 K1 on enclosed inquiry slip

HYDRAULIC WATCHDOG

POSITIVE AUTOMATIC PRESSURE CONTROL
FOR ANY
HYDRAULIC SYSTEM

ALERT . . . instant pressure regulation gives complete protection
FAITHFUL . . . engineered for long, trouble-free service
QUIET . . . shear-closing action eliminates "chattering"

FULFLO

Whatever your requirement . . . for O.E.M. use or replacement service, there's a dependable FULFLO Oil By-Pass Relief Valve designed just right, built right and priced right, too!

STANDARD MODELS
Screw or flange types—to 500 lbs.—for pipe sizes to 3"—steel, cast iron or brass bodies—brass, steel or stainless trim.

SPECIALS
Engineered to your most exacting requirements, for any application, designed to do your particular job to perfection.

Write for Data Book with complete specification and engineering data.

THE FULFLO SPECIALTIES COMPANY, INC. • 412 Fancy Avenue • Blanchester, Ohio

For more details circle NED-755 K1 on enclosed inquiry slip

ACID ATTACK?

You're safe with Lapp Chemical Porcelain Valves!

Now you can valve acids as easily as water! The solid porcelain of these Lapp valves is chemically inert, immune to corrosion from all acids (except hydrofluoric), and absolutely impervious. There's *extra* protection, too, in the TUFCLAD® armor that cushions the porcelain body against impact and insulates it against thermal shock.

Best of all . . . Lapp Chemical Porcelain Valves cost you far less than corrosion-resistant alloys and lined equipment. And they practically never need maintenance or replacement.

There's a full line to fit your process . . . Y-valves and angle valves, in ½" to 6" sizes. Also safety valves, check valves, plug cocks, pipe, fittings (to 8" diameter), and special shapes.

WRITE
for Catalog 567.
Lapp Insulator Co., Inc.
2522 Chestnut Street
LeRoy, N. Y.

Lapp
CHEMICAL PORCELAIN

For more details circle NED-756 K1 on enclosed inquiry slip

YOU GET MORE WITH A MILLER

Exploiting the full potential of better basic design, the Miller Gold Star 300 series ac-dc welders convert in minutes from the prime ac-dc welder of exceptional performance to any of these three a-c applications: Metallic Arc, manual or automatic Inert Gas; or, to any of the following d-c applications: Metallic Arc, manual or automatic Inert Gas, or Inert Gas spot welding.

It's important to note that the Miller conversion kits utilized to obtain any of the above simply *extend* the built-in superiority of the 300 series' welding characteristics into the type of application desired. It's adaptable by design—*not* accident.

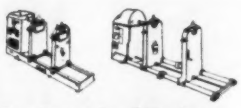
Available in 200, 300, 400 and 600 ampere models, all feature the exclusive Miller transformers and semi-metallic rectifiers. Complete specifications, including duty cycle chart, will be sent promptly upon request.

Also available on request are two new booklets: "A Full Line of Fine Welders" and "Questions and Answers on Rectifiers for Welding."

MILLER ELECTRIC MANUFACTURING COMPANY • APPLETON, WISCONSIN
Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

For more details circle NED-751 K1 on enclosed inquiry slip

FREE NEW BEAR BALANCING CATALOG



New Loose-Leaf Design — 32 pages packed with information and technical data

Just off the press! Bear's new, complete Industrial Balancing Catalog No. 160. One of the most complete directories on static and dy-namic balancing machines available anywhere. Shows models balancing any moving part from a few ounces to tons, production line or maintenance balancing.

Contents:
- Static and dy-namic unbalance explained
- Principles of operation
- Forces created by unbalance
- How to choose and order balancers
- Production line balancing machines
- Maintenance type balancers
- Variety of applications
- Specially built balancers

BEAR® 950-RR

Now the Most Complete Line of Balancing Machines for **PRODUCTION LINE and MAINTENANCE BALANCING**
WRITE TODAY! BEAR MFG. CO., Dept. N-2, Rock Island, Illinois

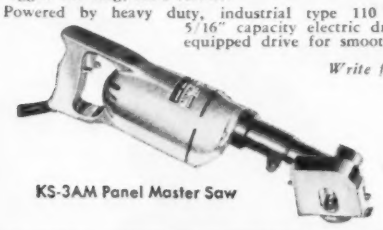
▲ For more details circle **NED-757 K1** on enclosed inquiry slip ▲

out on a limb over saw methods?

Why risk an embarassing letdown with old-fashioned cutting method? Save time, temper and patience. Now . . . zip through 3/16" aluminum, fiberglass, reinforced plastics, plastic laminates, even 16 gauge steel, with minimum effort . . . maximum speed . . . with the KETT Panel Master Saw. Its performance is outstanding on metal laminates such as Mirawal, Metalwal, Met-L-Wood and Amorply. 2½" diameter saw that requires no sanding or finishing. Amazingly easy to use . . . extra rugged for long, hard service.

Powered by heavy duty, industrial type 110 volt AC/DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.

Write for Catalog E-70



KS-3AM Panel Master Saw

THE KETT TOOL COMPANY
5051 Madison Rd.
Cincinnati 27, Ohio

▲ For more details circle **NED-758 K1** on enclosed inquiry slip ▲

"We Like Peerless Packet Hoists..."

Steamfitters, boilermakers, ironworkers and maintenance men make the same comment about Peerless Packet Aluminum Hoists. They say, "We like these hoists because their light weight permits us to carry them from job to job more easily."

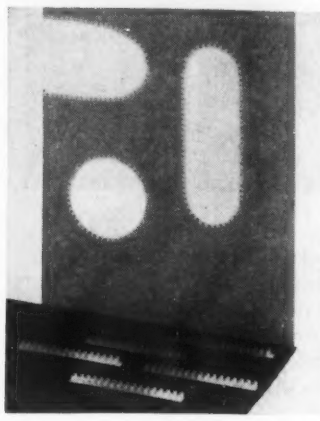
Not only are these hoists much lighter than the all-steel model, but they are just as strong and efficient—combine the desired lifting qualities with the portability that many users want.

In ½, 1 and 2-ton units. See your local Harrington distributor for complete details. Or write for a copy of Catalog R.

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

▲ For more details circle **NED-759 K1** on enclosed inquiry slip ▲

NYLON GROMMET
fits large holes of any shape



Three sizes of Pipcat nylon caterpillar grommet will fit 10 to 24-gage steel or aluminum sheets. User cuts only the amount needed from the standard 10-in. length to insulate a hole of any size or shape with a diameter over 3 in. Material provides good electrical insulation. For square or round holes with diameters over 6 in., commercial solvents may be required to hold it to metal. Tension is adequate in smaller holes to hold to any surface. Samples are available. • **Plastiglide Mfg. Corp.**, Dept. P-2, 1757 Stanford St., Santa Monica, Calif.

▲ For more details circle **NED-760 K1** on enclosed inquiry slip ▲

FIRE EXTINGUISHER
in 5 to 20-lb CO_2 capacities

High UL ratings, even in the hands of untrained personnel, are afforded by line of portable carbon-dioxide fire extinguishers. Based on test fires in open containers using gasoline as fuel, ratings for the five Cardox models with CO_2 capacities of 5, 10, 12, 15, and 20 lb are 4BC, 8BC, 10BC, 12BC, and 12BC (CQ), respectively. Thus, the 12-lb model with 10BC rating will extinguish 10 sq ft of deep-layer flaming liquid. UL tests are for areas 2½ times the rating given. Units are also approved for use on fires involving energized electrical wiring and equipment. • **Chemetron Corp.**, Cardox Div., 307 N. Michigan Ave., Chicago 1, Ill.

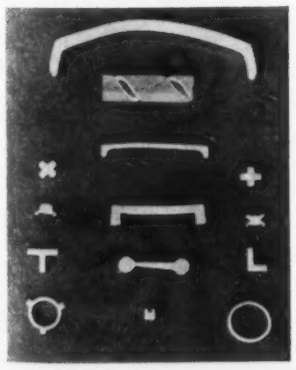
▲ For more details circle **NED-761 K1** on enclosed inquiry slip ▲

FLOW METERS
handle chemicals at high pressures

Metal-tube Varea-Meters are variable area flow meters for handling hazardous chemicals at high temperatures and pressures. They are supplied in a variety of materials with ASA 150 and 300-lb flanges, in tube diameters from ½ to 3 in. Water capacities range from 1 to 400 gpm; air capacities, from 4.2 to 1680 scfm. Each tube accepts any one of a family of interchangeable floats which increase in capacity in 20 per cent increments. Meters are supplied with a magnetic indicating extension, or optionally with a transmitter to operate recorders, controller, or integrators. Loose inlet flange allows 360-degree rotation of meter to bring outlet piping in from any direction. • **Wallace & Tiernan Inc.**, 25 Main St., Belleville 9, N. J.

▲ For more details circle **NED-762 K1** on enclosed inquiry slip ▲

TEFLON SHAPES & EXTRUSIONS
offered by new company facility



Teflon plastic is now available in extruded shapes and profiles in addition to normal round configurations. Almost any desired shape can be extruded to fit molding profiles, to insert in specially shaped conduit, or to follow a desired contour determined by configuration of the end product. In most cases extruding is less expensive than either molding or machining. • **Timely Technical Products, Inc.**, 100 Pine St., Verona, N. J.

▲ For more details circle **NED-763 K1** on enclosed inquiry slip ▲

COMPACT and PORTABLE!

500 DeLuxe Drum Rotator

by **MORSE**

Faster, Lower Cost More Thorough

- MIXING
- BLENDING
- TUMBLING
- CLEANSING

Handles 30 and 55 gal. drums; and with special attachments, 1 and 5 gal. containers; weight capacities up to 500 lbs. Powerful, smooth, motorized unit. Available with 10, 20 or 40 rpm. Weighs only 137 lbs. Neoprene drive wheels are oil and chemical resistant. Also available with explosion-proof motor. Patented features and design make this the finest portable rotator available.

Clip this ad to your letterhead for free MORSE Catalog.

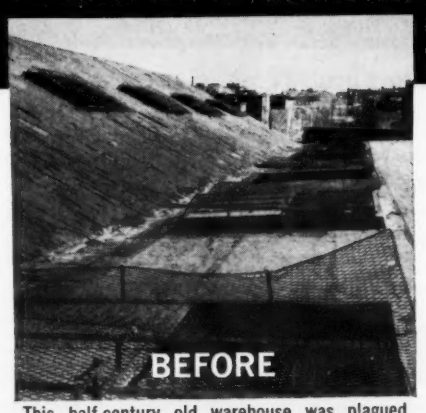
DRUM & BARREL HANDLING EQUIPMENT MORSE E. SYRACUSE, N.Y.

MORSE MANUFACTURING CO., INC.
756 West Manlius Street, East Syracuse, N. Y.

▲ For more details circle **NED-764 K1** on enclosed inquiry slip ▲

glass skylight troubles?

INSTALL WASCO SKYDOMES!



This half-century old warehouse was plagued with leaky, broken glass skylights requiring frequent repair and replacement. Constant film of dirt and grime blocked out daylight.

Maintenance costs disappeared! Weather-proof, shatter-proof, all-acrylic Wasco Skydomes shun dirt, admit more daylight. Built-in condensation drainage channel assures leakproof installation.

Glare-free Wasco daylighting opens up dim interior areas, cuts electricity costs, permits fuller use of floor space. Old skylights need not always be ripped out, can often be covered with Wasco Skydomes. Special mountings for easy, inexpensive installation. Wide variety of sizes, shapes, densities.

FOR INFORMATION, contact Wasco. We'll gladly furnish the name of a qualified applications engineer.

WASCO SKYDOMES
WASCO PRODUCTS DEPARTMENT
AMERICAN CYANAMID COMPANY
5 BAY STATE RD., CAMBRIDGE 38, MASS.

▲ For more details circle **NED-765 K1** on enclosed inquiry slip ▲

KEEP MACHINES RUNNING

...reduce maintenance costs,

with DEUBLIN ROTATING UNIONS

¾" Size Union Illustrated

for water, steam and air service!

Here is a compact, efficient rotating union—

- ★ LEAKPROOF
- ★ CORROSION PROOF
- ★ EASY TO SERVICE
- ★ VIRTUALLY FRICTIONLESS
- ★ PRECISION BUILT FOR LONGER LIFE
- ★ INTERCHANGEABLE with any other rotating union
- ★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
- ★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

Write today for full details and prices.

DEUBLIN COMPANY
1925 STANLEY ST., NORTHBROOK, ILL.

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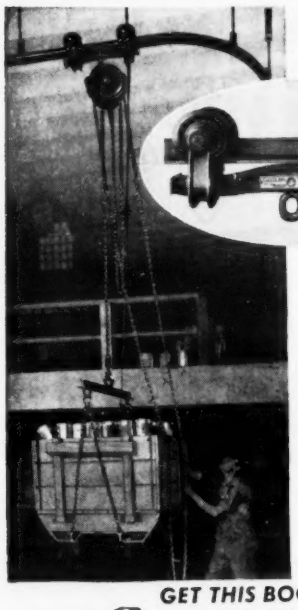
HEAVY LOADS *roll* Smooth and Easy



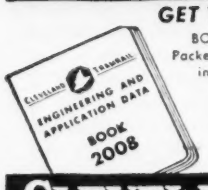
Starting Effort . . . 15 lbs.
Running Effort . . 10 lbs.
per ton weight

A simple, inexpensive, hand-propelled Cleveland Tramrail overhead materials handling system will pay for itself in a short time.

Overhead rails and transfer bridges make it possible to transport heavy loads directly to destination without in-between handling in a fraction of the time required for hand-handling.

GET THIS BOOK!

BOOK No. 2008
Packed with valuable information...



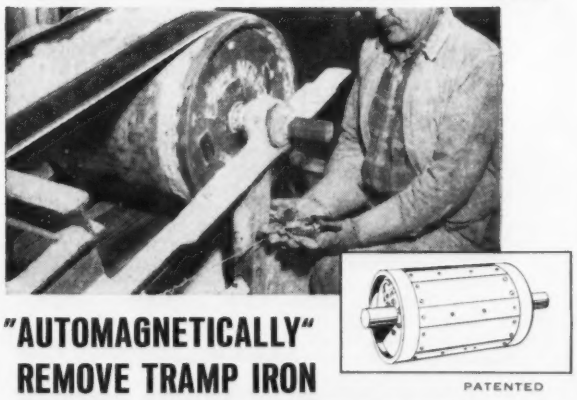
CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6642 East 285th St., Wickliffe, Ohio.

CLEVELAND TRAMRAIL

▲ For more details circle NED-767 K1 on enclosed inquiry slip ▲

ERIEZ

60 seconds that



PATENTED

"AUTOMAGNETICALLY" REMOVE TRAMP IRON WITH ERIEZ MAGNETIC PULLEYS

Prevent machinery damage, danger of fires and explosions, and product contamination. Remove unwanted iron from your processing lines with an Eriez Permanent Magnetic Pulley. With Eriez you choose the Erium® powered unit designed to perform best on your specific separation problem. Up to 36" diameter, all belt widths, 2 types of construction, 4 magnetic strengths.

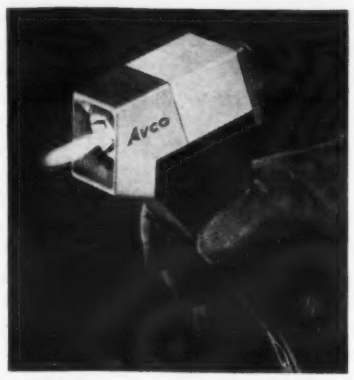
For descriptive bulletin write to:

ERIEZ
A GROWTH COMPANY... 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO. 80XA Magnet Dr., Erie, Pa.

▲ For more details circle NED-768 K1 on enclosed inquiry slip ▲

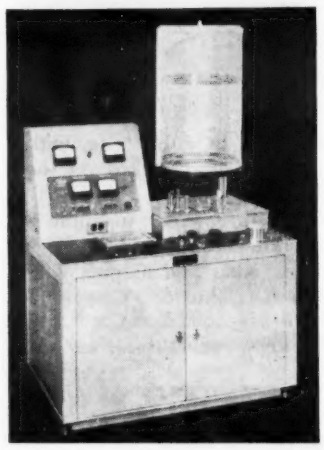
LIGHTWEIGHT PLASMA GUN handles metals and refractories



Lightweight and design simplicity are features of the PG-100 PlasmaGun which will spray metallic and refractory coatings with close control of thickness, density, and bond strength. Weighing only 3½ lb, the gun is 5 in. long. It can also be used to fabricate free-standing forms economically. Gun has integral adjustable cathode control, plus vernier controlled powder feed which permits the use of powders that previously were too fine for plasma guns. A complete PlasaGun system includes the gun, control console with self-contained powder feed, a power supply, and spray booth. • **Avco Corp.**, Research & Advanced Development Div., 201 Lowell St., Wilmington, Mass.

▲ For more details circle NED-769 K1 on enclosed inquiry slip ▲

VACUUM COATING SYSTEM doubles as environmental chamber, exhausts to $2x10^{-5}$ mm Hg in 30 min



Thin-film, high vacuum coating equipment built into Series 2100 Model VSC-20 bell-jar vacuum evaporator permits production coating of small electronic and optical parts. The self-contained, 32-in. desk-high console is designed so that operator can view work and instruments, manipulate all controls, and service the cold trap from a standing or sitting position. An electric hoist raises and lowers the 18-in. diameter bell-jar and perforated safety guard.

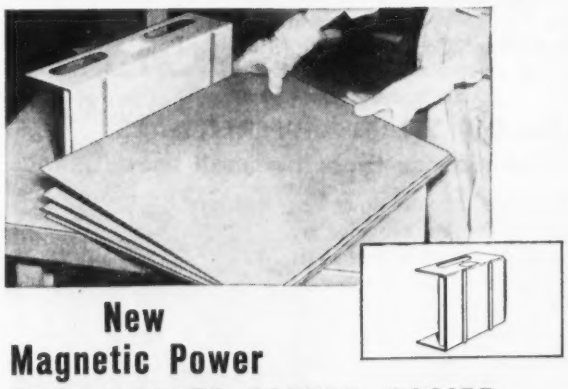
Pumping system will exhaust the entire unit to 2 x 10^{-5} mm Hg in 30 min and produces ultimate pressures in the 10^{-6} mm Hg range. As an environmental test system, unit can simulate altitudes to 120 miles, with provisions for introducing high heating currents, high voltages for ionization effects, and motion to test mechanical components.

The 2-kva power supply is stepless controlled by a variable transformer with four different voltage-current combinations. • **Vacuum Specialties, Inc.**, 34 Linden St., Somerville 43, Mass.

▲ For more details circle NED-770 K1 on enclosed inquiry slip ▲

MAGNETIC

will help you improve



New Magnetic Power FANS SHEETS FASTER, EASIER

All new design and all new magnetic power are combined in Eriez Sheet Fanners to give you the most efficient fanning action ever. Oily, sticky, hard-to-handle sheets can now be handled easier, safer. Increase production... increase profits!

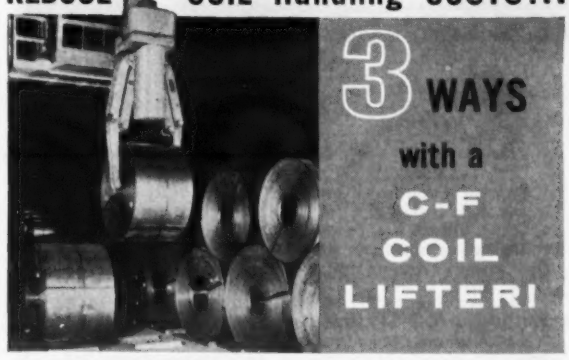
Choose from three strengths in four functional heights. Write for descriptive bulletin to:

ERIEZ
A GROWTH COMPANY... 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO.
80XB Magnet Dr., Erie, Pa.

▲ For more details circle NED-771 K1 on enclosed inquiry slip ▲

REDUCE COIL Handling COSTS...

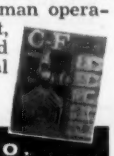


1 **SAVE MANPOWER**—only 1 man, the crane operator, is required to operate the C-F Coil Lifter above.

2 **SAVE SPACE**—you can operate a C-F Coil Lifter in a minimum of space, as little as 10" to 12", between piles, regardless of coil width.

3 **ELIMINATE DAMAGE**—the strong mechanical grip, and legs remaining vertical at all times prevent any damage to stock or material.

Motorized C-F Coil Lifters with Motorized Swivels as above are designed for safe, fast, efficient one man operation. They allow the crane operator to grab, lift, carry and rotate, set down and release the load precisely—in minimum space—without additional help.



WRITE NOW FOR NEW BULLETIN **SL 32.**

CULLEN-FRIESTEDT Co.
1304 S. Kilbourn Ave. • Chicago 23, Ill.

▲ For more details circle NED-772 K1 on enclosed inquiry slip ▲

Your WATER CONDITIONING IS OK WITH S-K PREVENTIVE MAINTENANCE

Prevent clogging deposits . . . caused by scale and corrosion . . . on your water-using equipment. With Stiles-Karlsonite products for *assured preventive maintenance* . . . your water is always crystal clear . . . tasteless . . . non-toxic.

Easily installed . . . Stiles-Karlsonite dispensers automatically feed Karlsonite into water systems. No moving parts . . . minimum maintenance.

Today . . . write for new 24-page brochure.

STILES-KARLSONITE CORPORATION
DEPT. SKC WAUKEGAN, ILLINOIS

▲ For more details circle NED-773 K1 on enclosed inquiry slip ▲

MINUTE

operating efficiency!

PATENTED

Keep Stubborn Materials Moving with HI-VI UNIT (BIN) VIBRATORS

Concentrated, dependable vibration, where it's needed most, prevents pile-up, arching, and bridging. Sticky, bulk, or granular materials flow smoothly through hoppers, bins, and chutes. Eriez AC operated electro-permanent magnetic bin vibrators perform well regardless of load change. Immediate delivery on models for any size bin, handling loads up to 50 ton capacities. Special models for hazardous, dusty locations.

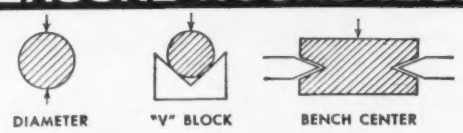
Write for descriptive bulletin to:

ERIEZ
A GROWTH COMPANY... 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO. 80XC Magnet Dr., Erie, Pa.

▲ For more details circle NED-774 K1 on enclosed inquiry slip ▲

HOW DO YOU MEASURE ROUNDNESS



Out of roundness consists of an odd or even number of lobes or bumps with regular or random spacing about the part circumference. Not all of these types can be measured or even detected by the more common measurement methods.

Measurements by diametrical or "V" Block methods are a calculated risk — they seldom tell the full or correct roundness story. Both methods are completely insensitive to certain types of part lobing.

Center type measurements are sensitive to all types of out of roundness—but the measurements are questionable in the high or ultra-precision fields. Very few plants have the means or program to control center and center hole error factors to the necessary degree.

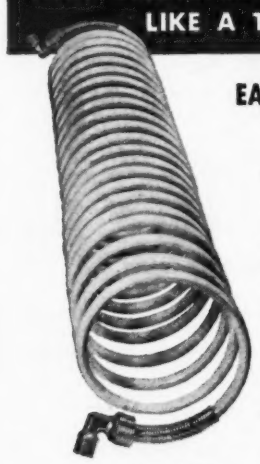
Radial measurements using an ultra-precision spindle and in some cases using a master round, are the only method which give a full and accurate measurement of out of round.

Write for "Roundness Measurements" and determine the reliability of your present method.

Cleveland INSTRUMENT COMPANY
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 East Schaaf Road • Cleveland 31, Ohio

▲ For more details circle NED-775 K1 on enclosed inquiry slip ▲

Now! An AIR HOSE THAT STRETCHES AND RECOILS JUST LIKE A TELEPHONE CORD!



Pat. Pending

EASIER AND SAFER TO USE
INCREASES EFFICIENCY
RESISTANT TO ABRASION

NYCOIL—the original recoiling air hose stretches from a compact 9 inches to 20 feet and beyond! Because it is always out of the way, there is less chance of damage to work or worker. Its bright, red color and self-storing ability offer a high safety factor.
NYCOIL fittings allow full flow of air and are easy to connect to any tool or equipment requiring air pressure up to 200 psi. No expensive recoil mechanisms required. If you are now using air—**you certainly need NYCOIL.**

SEND NOW FOR DESCRIPTIVE FOLDER AND PRICES

nycoil NYLON RECOIL HOSE

NYCOIL COMPANY—Westfield 2, New Jersey

▲ For more details circle NED-776 K1 on enclosed inquiry slip ▲

New Stock Molded Knobs AVAILABLE WITH OR WITHOUT SKIRTS

4 Standard Sizes

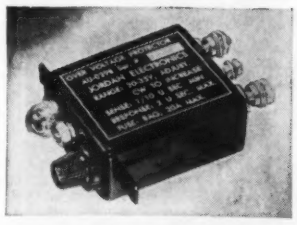
Meet MIL-P-14 Specs

MODEL RB-1250-SK Illustrated

Molded of thermosetting phenolic or urea materials. Available in 4 standard sizes with nickel plated brass inserts for ¼" or ⅛" diameter shafts. Aluminum decorative inserts or skirts, etched and filled as desired . . . various anodized finishes, plain or radially spun. Write for new catalog illustrating Rogan's complete line of stock molded knobs.

ROGAN BROTHERS, Inc.
8001 N. MONTICELLO • SKOKIE, ILL.
Specializing In Stock Molded Knobs Since 1939

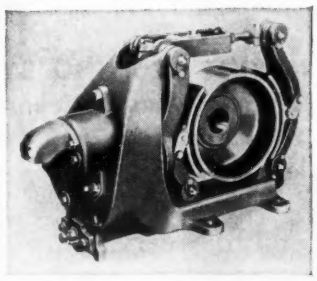
OVER-VOLTAGE PROTECTOR mounts in transistorized equipment



Permanently mounted in transistorized equipment, this high speed Model AU-0298 Over-Voltage Protector will interrupt the source of power if voltage rises above the adjustable limit. One per cent over-voltage pulses of only ⅓ microsecond duration will trigger the unit. Protection from a fast or slow voltage increase is within 2 microseconds. Unit places a short across the power input terminals to the semiconductor circuit and discharges capacitors. Power source is protected by a fuse. An indicator informs operator that voltage has exceeded the limit. Ratings to 400 v are available. Price is $32.50. • **Victoreen Instrument Co.,** Jordan Electronics Div., 121 S. Palm Ave., Alhambra, Calif.

▲ For more details circle NED-777 K1 on enclosed inquiry slip ▲

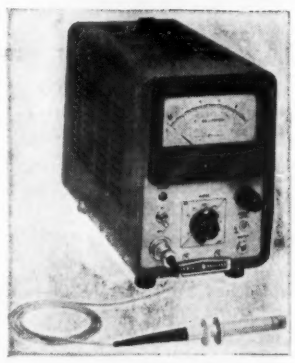
MAGNETIC BRAKE for 600 Series mill motors



"Nut-cracker" operating principle of Bulletin 106 B 8-in. direct-current magnetic brake assures that equal pressure is applied against the wheel by both shoes. Brake is built to AISE-NEMA standards for 600 Series mill motors. Duplicate shoes are self-aligning, symmetrical, and fit either side, with either end up. Magnetic coil can be changed on the job without dismantling the brake. Coils are epoxy-encapsulated to seal out moisture, and magnet is hinged so that dirt tends to fall through. Single adjustment compensates for lining wear and magnet gap. • **Clark Controller Co.,** 1146 E. 152nd St., Cleveland 10, Ohio.

▲ For more details circle NED-778 K1 on enclosed inquiry slip ▲

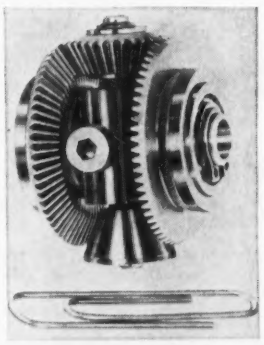
DC AMMETER measures 0.3 ma to 10 amp



A probe which simply clamps around a wire in the circuit under test enables the Model 428B direct current ammeter to measure from 0.3 ma to 10 amp without interrupting or loading the circuit. To measure lower current values, several loops can be put through the probe, increasing sensitivity by the same factor as the number of loops. Instrument will measure dc in the presence of ac signals, and will also measure sums or differences of currents in separate wires. Output proportional to meter deflection is available at the front panel for driving recorders, or for making low frequency measurements over a dc-to-300-cps bandwidth. Price is $550. • **Hewlett-Packard Co.,** 1501 Page Mill Rd., Palo Alto, Calif.

▲ For more details circle NED-779 K1 on enclosed inquiry slip ▲

HOLLOW SHAFT DIFFERENTIALS miniature type for small space

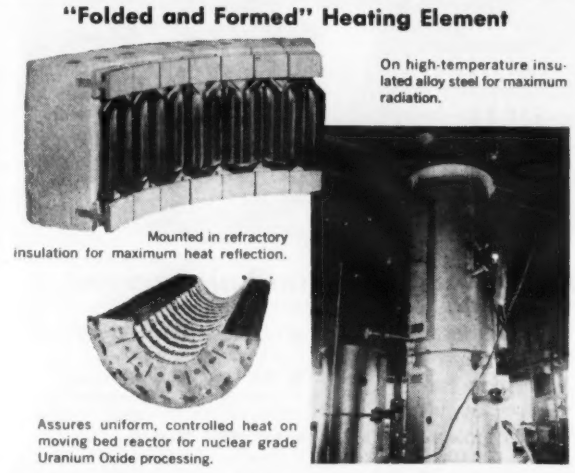


Clearance circles down to 1 in. or less are provided by line of precision hollow shaft differentials for computers and control instruments where mounting requirements are restricted. Units have central built-in clamping, backlash of 8 min or less, and break-away torque of 0.3 oz-in. or less. The stainless steel differentials are available with 0.1248, 0.1873, and 0.2498-in. bores in narrow and standard width (miter) designs. They can be supplied with end gears made from flat blanks parallel within 0.0002 in. Pitch and number of teeth for end gears can be specified. Subminiature units having ½-in. clearance circle are also available. • **Instru-Lec Corp.,** 520 Homestead Ave., Mt. Vernon, N. Y.

▲ For more details circle NED-780 K1 on enclosed inquiry slip ▲

TRENT

"Folded and Formed" Heating Element



On high-temperature insulated alloy steel for maximum radiation.

Mounted in refractory insulation for maximum heat reflection.

Assures uniform, controlled heat on moving bed reactor for nuclear grade Uranium Oxide processing.

USE HEAT IN YOUR PROCESS? LET TRENT ENGINEERS SHOW YOU HOW TO DO IT BETTER WITH TRENT ELECTRICALLY HEATED JACKETS, KETTLES AND INDUSTRIAL EQUIPMENT. WRITE FOR BULLETIN J-1.

TRENT INC. Electrically Heated Industrial Equipment
251 Leverington Ave.
Philadelphia 27, Pa.

In Canada: Pioneer Electric Eastern Ltd., Toronto

▲ For more details circle NED-781 K1 on enclosed inquiry slip ▲

MAGIC-POLE UNIVERSAL GANTRY

This versatile hoist support has 6 ft. of height adjustment, and a wheel tread adjustable to the narrowest aisles. Also featured is a self-aligning I-Beam, available in steel or aluminum alloy. Trolley travels full I-Beam. Entire unit folds for hauling or storage. Choice of 5 models with heights to 17 ft., spans to 30 ft., and cap. to 4 tons.

Write today for FREE Brochure with all data & prices

B. E. WALLACE PRODUCTS CORP.
EXTON 19, PA. Phone: FOxcroft 3-7240 (area code 215)

▲ For more details circle NED-782 K1 on enclosed inquiry slip ▲

Your SOABAR MAN* recommends . . . Soabar's NEW Model 21 Label Marker

Compact Design allows more marking area for pricing, product identification, stock control. Marks and counts at a rate of 170 labels per minute from money-saving label rolls. Automatic Self-stop Counter stops machine at any number of labels from 1 to 1000. Run-out Switch stops machine and counter when label roll comes to an end. Count continues with new roll. New Label Reels simplify loading . . . provide smooth, trouble-free operation.

Model 21 marks a variety of labels—sew-in, pressure sensitive (Quick-Stick), gummed paper and button . . . from ¾" x ⅜" to 1" x 1⅞". Flexible Marking Methods provide split-second copy changes . . . choice of type, slugs, vinyl plates, addressograph plates, line cuts, and "dial" registers.

***Alan Wadsworth, District Manager, San Francisco, Cal. . . . one of 36 SOABAR marking specialists conveniently located throughout the U.S.**

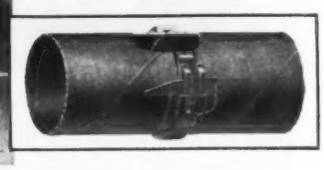
Soabar COMPANY
Specialists in Marking Equipment and Roll Tickets and Labels Since 1912
7722 Dungan Road • Philadelphia 11, Pa.

▲ For more details circle NED-783 K1 on enclosed inquiry slip ▲

NAYLOR...
The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.



Write for Bulletin No. 59 for data on pipe, fittings and connections.

NAYLOR PIPE Company

1247 E. 92nd St., Chicago 19, Illinois

Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

▲ For more details circle NED-784 K1 on enclosed inquiry slip ▲

RUGGED REVOLVATOR LIFTS
are adapted to your needs

Since 1904 Revolvator has been building portable elevators and related lifting equipment. Portable elevators are available in any reasonable lift and platform size in capacities from 500 lbs. to 5,000 lbs. Lifting may be by cable or hydraulic, hand operated or electric, according to requirements. Variations of fixed or revolving base, telescopic masts and other accessories are available.

Portable cranes, barrel and carboy handling and dumping lifts and similar types of equipment are based on the same rugged Revolvator components and design as the basic portable elevator.

REVOLVATOR CO.
ESTABLISHED 1904

Designers and Manufacturers of Portable Elevators, Power and Hand Lift Trucks, Hydraulic and Traction Elevators, Carboy and Barrel Dumpers, Portable Cranes, Positioners, Storage Racks, Turntables and Other Material Handling Equipment.

8732 Tonnele Ave.
NORTH BERGEN, NEW JERSEY
Sales Representatives in Leading Centers

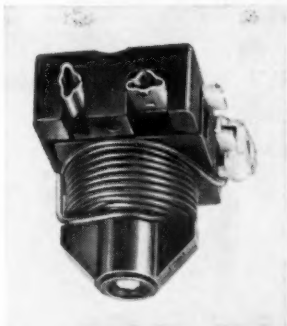
▲ For more details circle NED-785 K1 on enclosed inquiry slip ▲

DRUM PUMPS
powered by electric or air motor

Extended column of Series H55 drum pumps makes it possible to pump from the bottom of 30 and 55-gal drums. Pumps circulate, agitate, and dispense moderate and light viscosity cutting oils, coolants, inks, paints, coatings and adhesives. Model H5530 delivers about 10 gpm. Both models are powered by a ½-hp totally enclosed, explosionproof electric or rotary air motor. Cover plates with mounting flange for open head drums are also available. Special lengths for deep tanks can be built to order. • **Graymills Corp.**, 3705 N. Lincoln Ave., Chicago 13, Ill.

▲ For more details circle NED-786 K1 on enclosed inquiry slip ▲

MOTOR STARTING RELAY
for hermetic compressor motors



Klixon motor starting relays 9660-040 and 9660-041 are designed primarily for use on hermetic type refrigeration compressors using single-phase alternating-current motors. They plug directly onto the compressor's terminal cluster. Internal mechanism consists of a solenoid coil, a steel armature, and a bridging type contact arm. Relay cover and spool are made of high temperature phenolic. Contact ratings of 7 and 10 amp at 115 v ac and 5 amp at 230 v ac are available with service life to 1 million cycles. • **Metals & Controls Inc.**, Box 898, Attleboro, Mass.

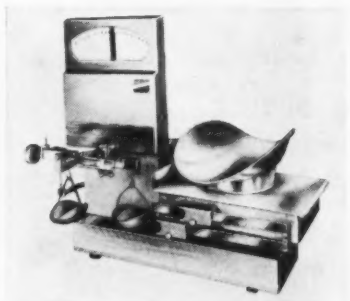
▲ For more details circle NED-787 K1 on enclosed inquiry slip ▲

POWER OPERATORS
outputs of 30, 60, and 120 lb-ft

Output torques of 30, 60, and 120 lb-ft at ½ rpm are offered in these Powertork power operators for electrical control drive applications. By using a five-stage gear train, package size no larger than 6 x 6 x 6 in. has been achieved. Gear train is immersed in a highly dielectric, radioactive-shielding oil suitable for service from −30 to 200° F. The 1800-rpm reversible split capacitor drive motor is also immersed in oil. Features include an electromagnetic brake and cam-operated, silver contact limit switches. • **Electro-Mech Corp.**, Reliance Instrument Div., 500 Livingston St., Norwood, N. J.

▲ For more details circle NED-788 K1 on enclosed inquiry slip ▲

COUNTING & WEIGHING SCALE
lever selects either function



Double ratio counting and automatic direct weighing functions are combined in the All-American Model C-250 scale. It direct-weighs screw machine products, plastics, and other materials up to 40 lb. With a flip of a lever, scale converts for fast ratio counting of predetermined or unknown quantities of small parts ranging from 2500 to 10,000 pieces. Fan dial charts reading to 5 lb by ½ oz, 10 lb by 1 oz, 20 lb by 2 oz, or 40 lb by 4 oz increments can be chosen. Standard ratios are 99:1, 9:1, 100:1, and 10:1. Scale is equipped with single or double stainless tare beams, a 16 x 12-in. stainless platform, two aluminum hanging scoops, and one 22 x 12-in. galvanized ring-foot scoop. • **Pennsylvania Scale Co.**, Bareville, Pa.

▲ For more details circle NED-789 K1 on enclosed inquiry slip ▲

PERFORM 2 FUNCTIONS WITH 1 LIMIT SWITCH!

NEW 2-pole device mounts in same space as single-pole switch...

- Completely oil-tight
- 2-pole double-throw precision switch eliminates relay contacts
- Variety of arms available

Write for details. Square D Company, Dept. SA, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

▲ For more details circle NED-790 K1 on enclosed inquiry slip ▲

NEW SMALL MAGNETIC STARTER
Costs Less, Saves Space on Low-Horsepower Jobs!

GET THE COMPLETE STORY!
Write for Bulletin SM-297. Square D Company, 4041 North Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY
wherever electricity is distributed and controlled

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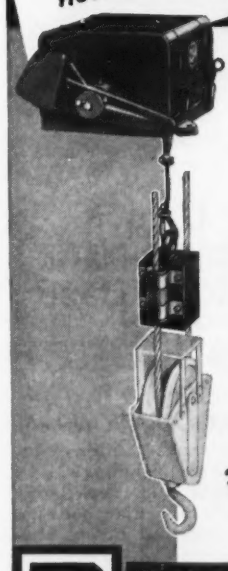
Prevent OVERHOISTING ACCIDENTS

EC&M LIMIT STOPS
for AC and DC Cranes



- Crane operators work better when fear of overhoisting accidents is eliminated. The EC&M Limit Stop disconnects motor from the line for a quick stop.

On DC cranes with high hoisting speeds, dynamic braking reduces drift and aids in bringing the hook block to rest. Because EC&M Limit Stops are operated directly by the hook block, stretching of the hoisting cable does not affect tripping point.

EC&M Limit Stops are easily installed on both new and existing AC and DC cranes.

Write for Bulletin 1032
It gives the complete story of EC&M's Youngstown Safety Limit Stops

SQUARE D COMPANY
EC&M DIVISION • CLEVELAND 28, OHIO
wherever electricity is distributed and controlled 8046

▲ For more details circle NED-792 K1 on enclosed inquiry slip ▲

Controlled tensioning eliminates shock loading through excessive chain vibration, and horsepower loss through belt slippage.

• ROTATING ARM ACTION FOR GREATER ADJUSTMENT
• FULL 360° POSITIONING

A low cost tensioner for single and multiple width drives that is more adaptable to machine frames. *See your Power Transmission Distributor* or write . . .

BRONZED BUSHED IDLERS
18 SIZES
AVAILABLE FROM STOCK

BREWER MACHINE & GEAR CO.
1441 N. 2nd St. St. Louis 6, Mo.

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CUSTOMIZE STORAGE AT LOWEST COST WITH

ACME STEEL RACKS

A new, broadened line of AIM Brand standard modular components for heavy-duty mass storage now enables you to utilize every foot of space without sacrificing quick access. Exclusive Load Lock, 3" square columns and tapered keyhole slots assure maximum strength, rigidity and safety. Erect either all-purpose, drive-in or drive-thru layouts. No "special order" expense. Write for new complete-line catalog.

ACME STEEL — IDEA LEADER IN FRAMING

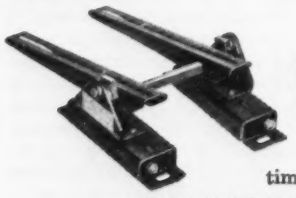
ACME STEEL COMPANY, Dept. NBD-101
135th St. & Perry Ave., Chicago 27, Ill.

▲ For more details circle NED-795 K1 on enclosed inquiry slip ▲

Time-Savers from AP

The New **ADJUSTO-SLIDE** Motor Base

Permits simple, 1-step belt adjustment—*without stopping motor.* Simplifies speed changes—with standard sheaves, or adjustable speed drives.



Unique **ECON-O-MATIC** Motor Base

Doubles belt life, cuts maintenance time 75%—*automatically*

AND THE PAY-OFF IS IN THE PRODUCTION

Both models available in a complete range of sizes to accommodate NEMA frame motors up to and including 30 HP. Adjusto-Slide up to 30 HP. Econ-O-Matic up to 250 HP. *All* models available for immediate delivery from your nearby American Pulley Distributor.

2807

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

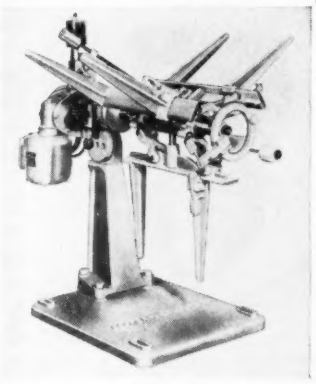
▲ For more details circle NED-796 K1 on enclosed inquiry slip ▲

CENTRIFUGAL ENAMELER
applies coatings to small parts

Control over film thickness of almost any type of coating, including paints and lacquers, is provided by this air-powered centrifugal enameler. It is top-loaded by hand or hoist and, because the entire operation is performed within the machine, no paint is spilled. Filling and draining are controlled by a single valve and speed of rotation is adjusted by a needle valve. The same lever that locks the lid starts the motor. Baking and air-drying enamels, synthetic paints, liquid waxes, lubricants, rust inhibitors, and many types of plastic films are also applied by the machine. • **Leon J. Barrett Co.**, Box 378, Worcester 1, Mass.

▲ For more details circle NED-797 K1 on enclosed inquiry slip ▲

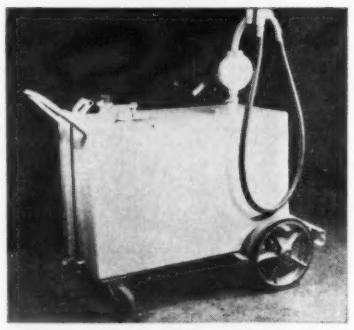
STOCK REELS
handle coiled stock up to 1200 lb



Coiled stock weighing up to 1200 lb is supplied in a free loop to stamping and other equipment by the 1200 Series automatic centering spindle stock reel. Plain and motorized models accommodate stock widths to 18 in., with coil diameter of 48 in. Three parallel rule type support arms with snap-on keepers automatically center the coils. They are adjustable from the front of the reel. Disc-type drag brakes are standard. Units can be tilted to 45-degree angle for easy loading. • **Cooper Weymouth, Inc.**, 600 Honeyspot Rd., Stratford, Conn.

▲ For more details circle NED-798 K1 on enclosed inquiry slip ▲

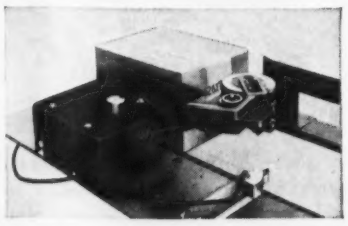
INFLAMMABLE LIQUID DISPENSER
transfer pump handles 5 gpm



This mobile, 60-gal safety dispenser for inflammable liquids saves time and labor in refilling safety cans, wash tanks, bench cans, and other combustible liquid containers and equipment. Transfer pump, fitted with a 6-ft neoprene hose with sealed-in static grounding wire, handles up to 5 gpm. Vacuum breaker mechanism instantly shuts off liquid flow to prevent spillage. Tank is internally baffled to minimize liquid surge when unit is in motion, and hand brake will stop the unit even on inclines. Other features include a magnetic liquid level gage, front bumper, handle, and combination flame arrester-pressure relief fitting in the tank fill opening. Unit is enameled in safety yellow. • **Protectoseal Co.**, 1920 S. Western Ave., Chicago 8, Ill.

▲ For more details circle NED-799 K1 on enclosed inquiry slip ▲

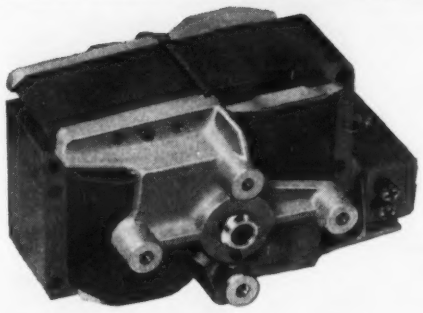
CARTON CODING DEVICE
rolls mark on side and rear of box



Operated by air pressure, Model 251 Rolacoder carton coding device rolls its mark along the side surface of the case, then repeats the same or a different mark on the rear surface as the case is conveyed along its line of travel. Coder attaches to a conveyor or case-sealer and does not require a case-turning device. Marking wheel, which takes quick-change rubber type, automatically retracts after each case has passed and repositions itself to mark the next case. • **Adolph Gottscho, Inc.**, 6 Terminal Rd., Hillside 5, N. J.

▲ For more details circle NED-800 K1 on enclosed inquiry slip ▲

WHERE CAN YOU USE THIS VIBRATORY MOTOR?



Delivers 14,400 strokes per minute with amplitude up to ¼". Rated at four amps full load at 115 vac, VM-40 is the largest of three, standard Syncro motors widely used in reciprocating sanders and jigsaws. Overall dimensions are 2½ x 3½ x 4½. Armature has a multiple torsion bar pivot bearing with no wear surfaces. A 16-billion cycle life test shows no appreciable wear. Excellent for continuous duty feeders, sorters, mixers, separators, packagers. Why not try VM-40 on your pet project? Bulletin available.

SYNCRO CORPORATION — OXFORD, MICHIGAN

▲ For more details circle NED-801 K1 on enclosed inquiry slip ▲

NOW! Any old electric hammer is worth $60.00* or more trade in

on a NEW SKIL ROTO-HAMMER

Ask your Skil distributor for details. He's listed under "Tools-Electric" in the Yellow Pages. Or write: Skil Corporation, 5033 Elston Avenue, Chicago 30, Illinois. But hurry—offer is for limited time.

SKIL POWER TOOLS

*In Skil hammer accessories

▲ For more details circle NED-802 K1 on enclosed inquiry slip ▲

• *Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.*

Dowel—Straight—Countersunk—Angle and Spherical Ends .020" to .1875" Diam. .125" to 2" Length

Precise Specifications Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

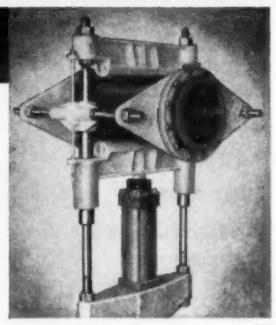
Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
SEND US PRINTS FOR QUOTATION

COMMERCIAL CENTERLESS GRINDING COMPANY
6605 CEDAR AVE., CLEVELAND 3, OHIO
Phone: ENdicott 1-3412

▲ For more details circle **NED-803 K1** on enclosed inquiry slip ▲

NEW



automated PINCH VALVE SYSTEMS

Controlled circuitry for any operating requirements.

The Massco-Grigsby Hydral-60 System consists of one or more pinch valves with a single automatically operated hydraulic pump. The pump may be operated by electric motor or by air from normal plant supply system. Valves may be coordinated and interlocked with other plant equipment to automatically control tank levels, etc.

3" to 14" I.D.; 50, 100, 150 psi; up to 200° F.

Rubber and neoprene sleeves for corrosive and abrasive pulps and liquids.

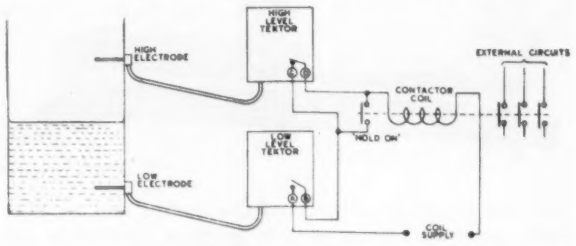
Write for NEW CATALOG No. 609

OFFICES AND AGENTS IN PRINCIPAL CITIES
MINE & SMELTER SUPPLY CO.
3800 RACE STREET—DENVER 16, COLORADO

▲ For more details circle **NED-804 K1** on enclosed inquiry slip ▲

REMOTE LEVEL CONTROL probe can be 250 ft from instrument

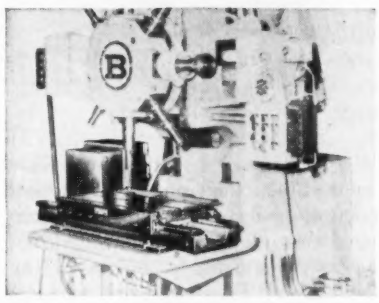
Tank-installed probe of the Tektor remote level control can be connected to the instrument with up to 250 ft of coaxial cable, permitting remote indication



or control of level. If centralized level control is required, this cable length enables all electronic units to be brought together from different parts of a plant and housed in one case. Using the Fielden capacitance system of level control, the Tektor has no electronics on the tank or container. More than 350 different probe types are available for applications involving liquids, powders, or solids. Control features printed circuitry for reliability and is made in general purpose and explosionproof models. • **Fielden Electronics, Inc.,** Huntington, N. Y.

▲ For more details circle **NED-806 K1** on enclosed inquiry slip ▲

INDEXING SLIDE TABLE stops in any arrangement can be set within stroke length of 18 in.



Operating cycles with multiple stops in any desired arrangement can be set on this indexing slide table package which consists of a heavy duty slide table, multistation indexing mechanism, portable electro-hydraulic power pack with reservoir, and an automatic-manual remote control station. Slide table can be built into original equipment or attached to standard turret drill (as shown), multispindle drill, upright drill, boring machine, or others where tooling feeds into work.

Cycles are regulated by a notched index control bar mounted at rear of moving saddle. Maximum stroke length, powered by 3-in. hydraulic cylinder, is 18 in. Saddle has 32 x 15-in. work surface and three T-slots. Controlled feed rate can also be used during any parts of the slide stroke. Cylinder thrust on slide is about 2000 lb under 300 psi operating pressure.

Remote control station includes manual-off-automatic selector and index and return pushbuttons for use in manual operations. • **Russell T. Gilman, Inc.,** 623 Beech St., Grafton, Wis.

▲ For more details circle **NED-807 K1** on enclosed inquiry slip ▲

NEW PORTABLE SERRATING TOOL

Now . . . a simple-to-operate portable serrating tool. May be used with a hand drill or in your drill press as a production tool. Fast-acting, it features retractable blades plus maximum reach and depth. May be powered by an Airetool 600-D pneumatic motor at 335 r.p.m., the Serrating Tool is ideal for grooving openings in steel and brass tube sheets. For complete information contact your Airetool representative or, write direct.

Three sizes available 5/8", 3/4" and 1"

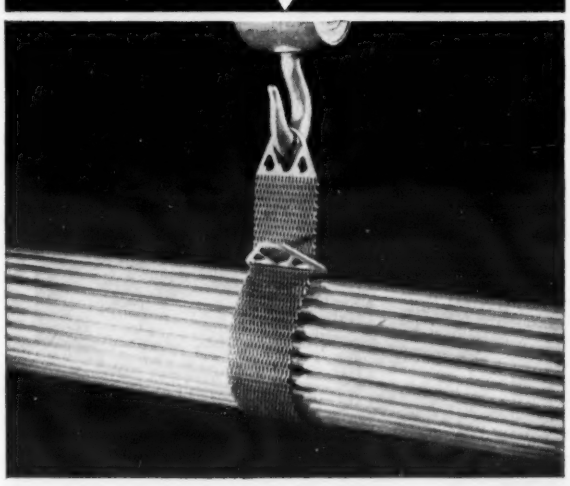
Representatives in principal cities of the free world

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

More than 30 years' experience in pneumatic motor equipment

▲ For more details circle **NED-808 K1** on enclosed inquiry slip ▲

How You Can Save Money WITH THIS GRIP



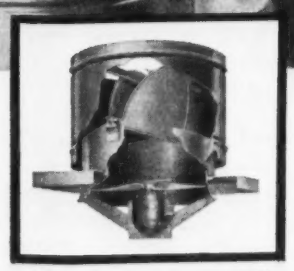
No matter what you handle with a sling, there's a good chance you can save a lot of money by using a Gripper Sling. Here's how. *You Reduce Stock Damage.* A Gripper Sling has the flexibility and broad bearing surface needed to hold any load in a firm, but gentle grip to eliminate biting, cutting, scoring or crushing of the load. Nothing—not even center members of tube bundles—slips out of the Gripper Sling's grip. *You Save Time and Labor Costs.* A Gripper Sling can't kink, tangle or snarl. It's easier to rig, easier to unhitch. One man can do the job with no time lost getting the sling ready for the lift.

Pretested and guaranteed Gripper Slings are made in standard widths and lengths for capacities up to 100,000 lbs. Special sizes, alloys or PVC plastic or Neoprene covered Gripper Slings available. Write for FREE CATALOG and name of your nearest representative.

The Cambridge Wire Cloth Co.
DEPARTMENT E • CAMBRIDGE 10, MD.

▲ For more details circle **NED-809 K1** on enclosed inquiry slip ▲

RAIN CAN'T ENTER SKY-BLAST® ROOF VENTILATORS!



Powerful exhaust keeps out rain, snow, sleet. SKY-BLAST needs no throttling weather covers, so more air is moved at less cost. Wind velocity or direction can't affect performance. At rest, butterfly dampers form watertight seal. Other weatherproof features include: galvanized heavy gage steel surfaces . . . nonclogging rainshed . . . low wind guard . . . rugged base and condensate drain. Ratings to 78,000 CFM. Write for Bulletin 680-NE

PROPELLAIR®
Div. of ROBBINS & MYERS, INC., SPRINGFIELD, OHIO

DIRECT CONNECTED · TUBEAXIAL · EXTENDED SHAFT · MAN COOLER

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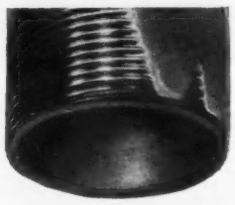
SEAL FOR SURE ...USE KEY-TITE



Protect joints from seizing with Key-Tite waterproof sealing compound. It lubricates while it seals and is completely non-toxic... safe for potable liquids, fully effective for water, gas and low-pressure lines.

Send for circular 239-B, P. O. Box 2117, Houston, Texas

W-K-M DIVISION
ACF INDUSTRIES

For more details circle NED-810 K1 on enclosed inquiry slip

INDUSTRIAL EPOXY RESIN IN TUBES

ACTUAL SIZE • 11 OZ. INDUSTRIAL METALSET A4

Just squeeze out equal amounts from each Metalset A4 tube, mix and apply. Use only what you need. Save the rest for the next job.

Smooth-On's Metalset A4 can be used in any thickness, is water and oil proof, chemically stable and has great adhesion.

Typical repairs include leaks in tanks, pipes; caulking conduits, flues, casements; filling holes in metal and wood; tightening loose parts; anchoring bolts and screws in wood, concrete and plaster.

Order from your industrial distributor; if he does not yet stock Metalset, order direct from us. Six ounce unit is $1.98, eleven ounce unit is $2.98. Also available in units of cans. Descriptive bulletin is available on request.

80443

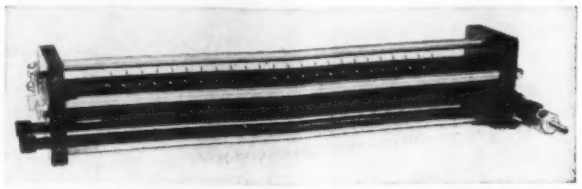
METALSET®

Made by Smooth-On Manufacturing Company
572 Communipaw Avenue, Jersey City 4, N. J.

For more details circle NED-811 K1 on enclosed inquiry slip

STATIC ELIMINATOR
emits curtain of ion-charged air

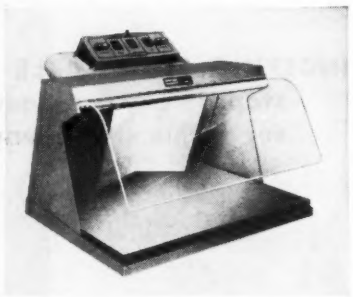
A static neutralizing air stream up to 3 ft deep is supplied by this Air Bar static eliminator which consists of air emission tubes coupled to an eliminator bar.



The bar has two rows of emitting points and supplies high concentration of ions through a controlled diffused discharge principle. Air tubes, connected to plant air supply or separate compressor, provide the air curtain that extends the neutralizing field in depth and width. Units are furnished in lengths up to 120 in. Several bars can be operated from a single power unit and in conjunction with other Takk static eliminator bars. • **Takk Corp.**, Box 346, Newark, Ohio.

For more details circle NED-812 K1 on enclosed inquiry slip

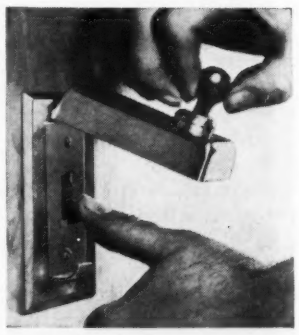
DUST-FREE WORK STATION
has internal exhaust system



An internal, silent exhaust picks up any dust and fumes at the point of work in this Craftool Dust-Kleer work station. Designed for dust-free assembly of controls, miniature electronic parts, and other minute assemblies, unit measures 24½ x 18½ x 19 in. A replaceable filter traps the particles, exhausting clean air. No external duct is required. Work station has twin lights to illuminate work area, a hinged clear glass eyeshield, individual switches for control of system and lights, and two 110-v outlets. Formica, plastic, or Transite work surfaces can be supplied. Unit is priced at $125. • **Craftools, Inc.**, 396 Broadway, New York 13, N. Y.

For more details circle NED-813 K1 on enclosed inquiry slip

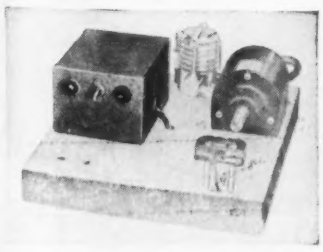
SWITCH LOCKING COVER
fits over any metal wall plate



Unauthorized tampering with an electrical switch is prevented by this locking cover with a Yale tumbler lock. It fits over any metal wall plate, single or ganged. Device is furnished with two duplicate keys. Additional keys are never supplied, assuring customer's protection. With a straight keying system all locks are either keyed alike and operate on the same key, or they are keyed differently to operate on individual keys. In the master system, units can be keyed either alike or in groups, or with each lock keyed individually. • **Harvey Hubbell, Inc.**, State & Bostwick Streets, Bridgeport 2, Conn.

For more details circle NED-814 K1 on enclosed inquiry slip

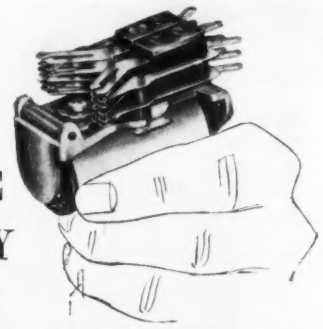
MACHINE FEED CONTROL
for electric, hydraulic, air feeds



This Machine Feed Control can be applied to electrical, hydraulic, or pneumatic controlled automatic feeds for tapping machines, drill and punch presses, multispindle devices, and other machines. Unit utilizes only a standard limit switch and electrically operated valve. It operates with a maintained jig switch and can be actuated manually or automatically. In the latter case, insertion of part into positioning jig initiates the feed cycle. Feed stops automatically if part becomes disengaged from its proper position. Control box can be equipped for either momentary or maintained control switches, or both, and can be supplied with an internal transformer for safe low voltage switching. • **Guardian Electric Mfg. Co.**, 1550 W. Carroll Ave., Chicago 7, Ill.

For more details circle NED-815 K1 on enclosed inquiry slip

this P&B TELEPHONE TYPE RELAY will give you 100 MILLION OPERATIONS



Medium coil LS relay has bifurcated contacts and stainless steel hinge bearing that assure a minimum of 100 million operations (mechanical).

Heavy-duty frame maintains dimensional stability . . . adds to relay sensitivity and long life. Available with up to 24 springs (12 per stack). Can be furnished with either operate or release delay slugs.

SPECIFICATIONS

COIL:
Voltage: DC: to 220V.
Power: @ +25°C 65 MW/movable arm min. 5 watts max.
Resistance: DC: 55,000 ohms max.

CONTACTS:
Max. No. Springs: DC: 24 (12/stack).
Contact Material: 1/16" dia. twin palladium
Rating: 4 amps @ 115V 60 cycle resistive (100,000 cycles) DC: 4 amps 150 watts
Mechanical Life: 100 million min.

DIMENSIONS:
Min: 2⅛ x 1 1/16 x 1 5/32
Max. 2⅛ x 1⅛ x 1 5/64

P&B STANDARD RELAYS ARE AVAILABLE AT YOUR LOCAL ELECTRONICS PARTS DISTRIBUTOR

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY • PRINCETON, INDIANA
IN CANADA: POTTER & BRUMFIELD, DIVISION OF AMF CANADA LIMITED, GUELPH, ONT.

For more details circle NED-816 K1 on enclosed inquiry slip

VIBRA-WASHER

...THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE

- Labor saving
- Automatic unloading
- For single or multi-stage operations
- No nesting of parts during cleaning or conditioning cycle
- Adjustable capacities to 10,000 lbs. per hour

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity
TRADE MARK REGISTERED
212 ENGINEERING COMPANY • DURAND 15, MICH.

For more details circle NED-817 K1 on enclosed inquiry slip

FREE TRIAL

WHY IDEAL AUTOMATIC STENCILING CUTS SHIPPING COSTS:

- Automatic character, word and line spacer increases speed and production.
- Saves at least 20% in stencil board.
- Cushioned hand wheel and handle, safety hood and other features make the Ideal easier to use—saving labor costs.
- Exceptionally long life—many Ideals have been in service over 20 years.

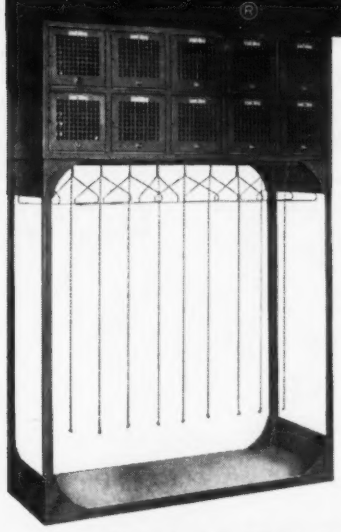
for free trial:

SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

IDEAL STENCIL MACHINE CO.
102 Iowa Ave., Belleville, Illinois

For more details circle NED-818 K1 on enclosed inquiry slip

LYON® economy Locker Racks



◀ Most practical clothes storage unit wherever floor space is limited and low cost is a "must"

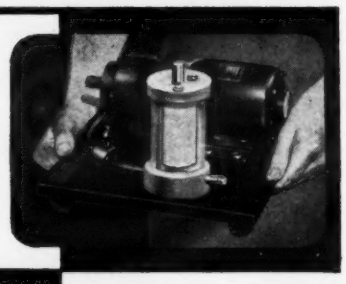
• Storage for ten persons in minimum floor space. Doors have built-in locks. Chain-through-sleeve protects coats against theft.

Write for free 100-page Lyon Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle **NED-819 K1** on enclosed inquiry slip ▲

miniature 10 & 25 g.p.h.
FILTER SYSTEMS



for laboratories, pilot plants and small batch process industries

FILTERS & CIRCULATES SENSITIVE, CORROSIVE & PRECIOUS SOLUTIONS · SOLVENTS

Model LAI-1 up to 10 g.p.h. **$98**
Model LAI-3 up to 25 g.p.h. **$125**

features:
- Needs only 8" x 9" bench space
- Lucite (140°F. max.) or pyrex-epoxy (250°F. max.) chambers; teflon, etc.
- Dynel, porous stone or porous carbon filter tubes
- Leakproof epoxy centrifugal pump
- Self primer available
- Continuous duty ball bearing motor

FREE CATALOG

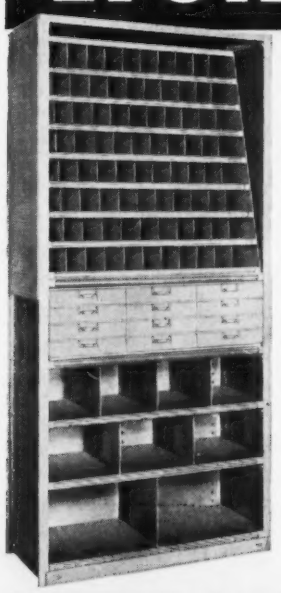
Send for your Sethco M1 catalog of pumps and filter systems today. Complete, up-to-date, gives full specifications, applications, capacities, filter selection guide and prices.

DEPTH FILTRATION FOR ALL ELECTROPLATING AND INDUSTRIAL APPLICATIONS • METAL FINISHING • PHOTO PROCESSING • PETROLEUM • SOLVENTS • LACQUERS • PHARMACEUTICALS • ULTRASONIC CLEANERS • RADIOACTIVE SOLUTIONS • WATER • ELECTROTYPING

Sethco MANUFACTURING CORP.
2272 Babylon Tpke., Merrick, N.Y.
MAyfair 3-4220

▲ For more details circle **NED-820 K1** on enclosed inquiry slip ▲

LYON® TOOL SHELVING



COMPLETE RANGE OF TOOL STORAGE UNITS MEETS EVERY REQUIREMENT

The illustration shows one of many combinations of shelving and storage inserts you can custom-build with standard Lyon units.
Shelving sections are 3′ wide, 1½′ deep, 7′ high. Shelf dividers are adjustable every inch. No nuts, bolts or tools. Inserts include pigeon hole, sloping front, drawer case and swinging panel units. Finish, gray baked-on enamel.

Write for free 100-page Lyon Catalog.

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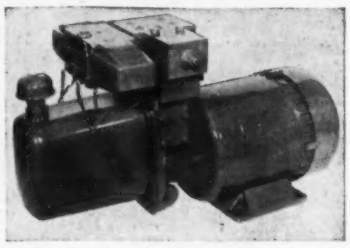
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle **NED-821 K1** on enclosed inquiry slip ▲

HYDRAULIC POWER PACKAGES
compact for any machine application



Motorized hydraulic power packages for dockboards, scissors lifts, small press brakes, baling presses, and tube benders consist of a pump, motor, valving, and reservoir combined in one compact assembly. Series PKS1, rated 8 gpm output, is offered with one or two solenoid valves and an overload relief valve adjustable to 1500 psi. Series PKM1, also 8 gpm, can have up to three manually operated valves. It is equipped with a nonadjustable overload relief valve available in 250-psi increments to 1500 psi. Basic Series PKM6, without control valves, is rated to 5 gpm and has overload relief valve adjustable to 1500 psi. Totally-enclosed motors rated 1 to 5 hp at 1800 rpm are offered in either 115/230 v single-phase or 220/440 v three-phase types. • **Vickers Inc.**, Dept. 1456, Detroit 32, Mich.

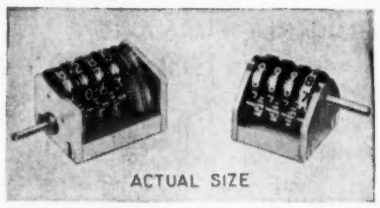
▲ For more details circle **NED-822 K1** on enclosed inquiry slip ▲

TAPE APPLICATOR
easily cuts tape to desired length

Any ½-in. wide, 1-in. core masking, vinyl, cellophane, or similar type of tape is accommodated by the Velvet Touch one-hand applicator. Single-hand action is by rolling the tape to the desired length, then tilting and twisting slightly to cut off the tape to length. Waste, wrinkling, and curling are minimized with the refillable unit. It is made in six colors and sells for 98 cents, including tape. • **Velvet Touch Corp.**, Bellingham, Wash.

▲ For more details circle **NED-823 K1** on enclosed inquiry slip ▲

SUBMINIATURE COUNTERS
drums have 0.288-in. diameters



Drum diameters of only 0.288 in. with digits 0.075 in. high by 0.045 in. wide indicate the small sizes of Models 1005 and 1006 reversible-type subminiature counters. Model 1005 has a 200:1 gear reduction with gear pitch of 120, and accommodates input speed of 5000 rpm. It measures 7/16 x ⅝ x 29/64 in., not including shaft length. Model 1006 measures 7/16 x 15/32 x 29/64 in. Units have anodized aluminum frames, stainless shafts, and Oilite bearings. Military version of the 1006 has anodized aluminum drums with engraved digits. A commercial model will be available with Lexan molded drums and pinions. Military unit is priced at $44. • **Haydon Instrument Co.**, 17 Brown St., Waterbury 20, Conn.

▲ For more details circle **NED-824 K1** on enclosed inquiry slip ▲

VACUUM CLEANER
motor detachable for hand use

Industrial vacuum cleaner power is combined with the 72-strokes - per - second cleaning action of six revolving nylon brushes in the compact Pile-Lifter vacuum cleaner. Unit lifts, massages, and combs the rug pile while it removes dirt, grit, and lint. Brush pressure is adjustable for high or low pile, and a 2-in. wide non-marking, air - cushion bumper protects walls and furniture. Vacuum motor detaches for use as a portable blower or vacuum cleaner. Filter bag opens to 81 sq in. for fast emptying. Handle can be used in horizontal or free-swinging position for work in cramped areas. • **Hild Floor Machine Co.**, 1217 W. Washington Blvd., Chicago 7, Ill.

▲ For more details circle **NED-825 K1** on enclosed inquiry slip ▲

MAYBE WE CAN DO IT BETTER AND FOR LESS

Hundreds of Companies have found us the Right Source of Metal-Fabricating

We have facilities, experience and engineering counsel which may meet your special requirements—exactly. Three large, well equipped plants at **Aurora, Ill., York, Pa.** and **Los Angeles** geared to economical production. Years of experience handling thousands of special items . . . products, parts, subassemblies, merchandising units, made to your specifications.

Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing.

Send for 16-Page Illustrated Booklet
It tells All!

LYON METAL PRODUCTS, INC.
General Offices, 1031 Monroe Ave., Aurora, Illinois

▲ For more details circle **NED-826 K1** on enclosed inquiry slip ▲

NOW... ONE SOURCE FOR IMMEDIATE DELIVERY ON ALL YOUR

Vari-Speed Belt NEEDS

..from LOVEJOY

Wide range of sizes from ⅞" to 3" top width
Nominal overall lengths from 26.4" to 170"
- Fabricated from fiber-reinforced synthetic rubber
- Impervious to oil and heat
- Remain "live" under static conditions
- Stretch resistant properties of reinforcing cords assure length stability
- Constructed to withstand intense squeezing action of pulley sheave walls

Get industry's most handy guide to the right variable speed belt for every application. Ask for Catalog 61-C on company letterhead.

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First Name in Power Transmission Equipment

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4803 West Lake St. • Chicago 44, Illinois

SO EASY TO USE IN SO MANY WAYS

Lyon Slotted Angle is the low-cost answer for bulk storing and stacking.

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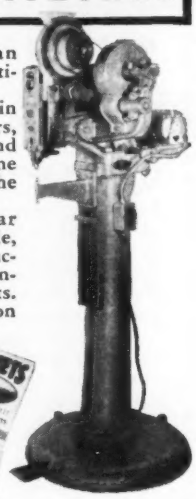
Dealers and Branches in All Principal Cities

▲ For more details circle **NED-827 K1** on enclosed inquiry slip ▲

YOU CAN *Automate* WITH NATIONAL RIVETERS



Automated fastening does not mean thousands of dollars of expense for multi-headed riveting equipment.

Over 90% of the riveting machines in use today are low cost, single riveters, easily converted to new products and new jobs. National has a complete line —including multi-headed units where the job warrants.

National semi-tubular and tubular rivets and riveting equipment is flexible, rugged, low cost. Its use speeds production, often improves quality of the finished product and slashes labor costs.

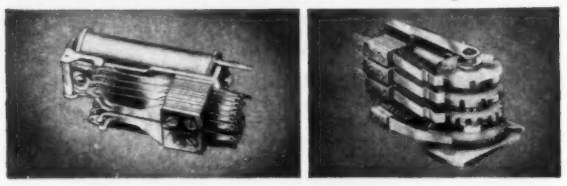
Find out today. There is no obligation for National's prompt answers to your fastening problems. Send a blue print or a sample of your fastening job.

NATIONAL RIVET & MFG. CO.
211 Main St.
Waupun, Wis.

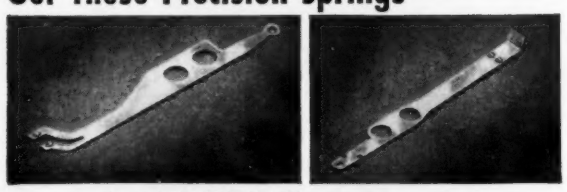
NATIONAL RIVETS
TUBULAR, SPLIT, SOLID ALL METALS

▲ For more details circle NED-829 K1 on enclosed inquiry slip ▲

AUTOMATIC ELECTRIC Relays

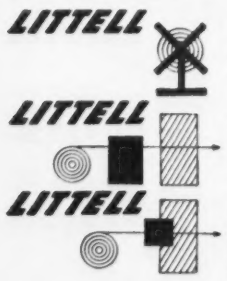


Get These Precision Springs



From *LITTELL*-Fed Presses

Here is precision stamping. These springs actuate the sensitive Automatic Electric Relays that serve as "brain cells" in various computers—as "nerve centers" in complex teletypewriter switching systems. Automatic Electric makes sure of sustained precision results by stamping these vital springs on electronically controlled punch presses served by Littell equipment.



LITTELL — **REELS AND COIL CRADLES** supply the stock in a smooth, even flow.

LITTELL — **STRAIGHTENERS** remove coil curvature, send flat stock into the press.

LITTELL — **ROLL FEEDS** push the straightened stock into the die area in perfect timing with the press stroke.

The entire operation is automated. Safety devices automatically stop the press and protect the die when stock has been consumed or if any malfunction in parts ejection, or stock location occurs. Catalogs are available on request.

COILY SUGGESTS
write for free catalogs:
For REELS Catalogs D-1, D-10, D-20
For STRAIGHTENERS C-Series Catalogs
For ROLL FEEDS Catalogs A-1, A-10, A-15

F. J. LITTELL MACHINE CO.
4169 Ravenswood Ave., Chicago 13, Ill.

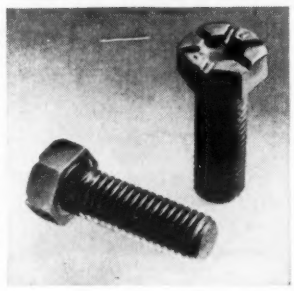
▲ For more details circle NED-830 K1 on enclosed inquiry slip ▲

CASTER WHEELS with high-load, long-wear tread

Adiprene tread on these industrial caster wheels is a long-wearing, high-load capacity polyurethane that absorbs vibration and rolls quietly, yet permits easy starting. It is unaffected by chemicals, petroleum products, mild acids, alkalies, weathering, or ozone conversion. Treads will not mark floors nor pickup concrete particles. Both swivel and rigid casters are available with Adiprene treads in diameters from 3½ to 8 in., with load ratings from 400 to 1300 lb. Wheels with 1½ to 2-in. treads have double sealed bearings. • **Rapids-Standard Co.**, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-831 K1 on enclosed inquiry slip ▲

SELF-LOCKING BOLT elasticity built into head design



Head design with built-in elasticity furnishes enough additional elongation to give this Place Bolt self-locking frictional bearing in the threads. Tests show substantial increase in release torque for this impact-formed one-piece fastener. Head is formed with six slots in the upper face and a circular recess adjacent to the shank on the seating face. When bolt is tightened, recess places load at outer surface of bearing area, causing the diaphragm-like center to act as a controlled spring element. Bolts can frequently be used to solve critical problems of fatigue and involuntary loosening in various metal assemblies. • **Screw & Bolt Corp. of America**, Box 1708, Pittsburgh 30, Pa.

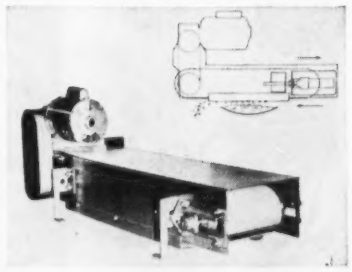
▲ For more details circle NED-832 K1 on enclosed inquiry slip ▲

CRUCIBLE FURNACE attains 1400 to 2800° F

Manually operated, bottom loading, KEC6-49 crucible furnace has a 4 x 4 x 9-in. heated chamber and a vertical lift mechanism for ease of loading and discharging. Lowered work rests on a roller conveyor which facilitates removal and pouring. A saturable core reactor control eliminates on-off action and minimizes temperature deviation. Provision for passing inert gas over the work charge is built in. Furnace attains 1400 to 2800° F. • **Lindberg Engineering Co.**, 2450 W. Hubbard St., Chicago 12, Ill.

▲ For more details circle NED-833 K1 on enclosed inquiry slip ▲

TRAMP IRON SEPARATOR is suspended over conveyors, chutes

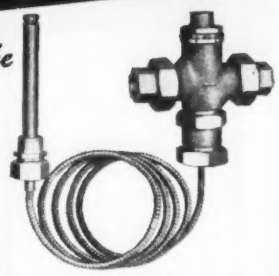


Tramp iron is effectively removed from materials carried on conveyor belt, down chutes, or through spouts by the Dings Self-Cleaning Perma-Plate magnetic separator. Iron is picked up and held to a moving crossbelt by stainless steel enclosed permanent magnets. It is released from the crossbelt beyond the magnetic zone and deflected to a container or chute. Unit can be used in conjunction with other separators on conveyors carrying deep burdens, or to recover magnetically susceptible metal from nonmagnetic burdens. It is offered in three magnetic strengths and driven by ¼ or ⅓-hp gearmotor. • **Dings Magnetic Separator Co.**, 4740 W. Electric Ave., Milwaukee 46, Wis.

▲ For more details circle NED-834 K1 on enclosed inquiry slip ▲

If your equipment or process requires . . .
ACCURATE, AUTOMATIC TEMPERATURE CONTROL
for HEATING or COOLING (using STEAM, WATER, or HEAT TRANSFER FLUIDS)

There is no equal to the **Sterlco®** *Series 150-E*
TEMPERATURE CONTROL VALVE

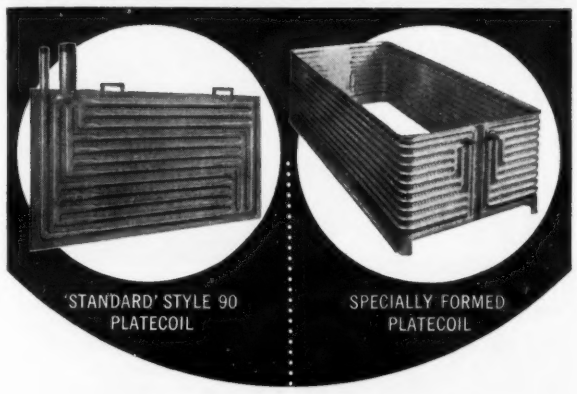


Here is a quality, dependable, and low cost self-actuated automatic modulating control valve. It's compact, self-contained; and, as part of your equipment or process, will eliminate the human factor of manual valves. Balanced single-seated construction eliminates effect of pressure variation. Send for Bulletin #505.

MOUNTS *and* OPERATES *in* ANY POSITION

INDUSTRIAL CONTROL DIVISION STERLING INC.
5204 W. Clinton Ave., Milwaukee 23, Wis.

▲ For more details circle NED-835 K1 on enclosed inquiry slip ▲



PLATECOIL®

boosts efficiency in all kinds of tank and process heating and cooling — saves on engineering, fabrication and maintenance

PLATECOIL can be engineered and factory-fabricated to exact specifications. Available in a wide range of standard sizes, specially formed or fabricated units, and most weldable metals. Operating pressures up to 250 psig.

"Platecoil" can be furnished to comply with ASME Code

WRITE FOR NEW BULLETIN P57

PLATECOIL DIVISION, TRANTER MANUFACTURING, inc.
Lansing 9, Michigan

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SPECIAL TOOLS FOR SPECIAL JOBS 2

K-D 446X EXTERNAL SNAP RING PLIERS TO RAISE PRODUCTION LINE EFFICIENCY

Adjustable jaw stop permits setup to easily handle one ring size over and over

Adjustable handle stop prevents overexpansion of rings

- Sturdy tempered steel construction assures thousands of flexings without loss of precision
- Interchangeable tool steel points have reverse taper shanks to grip rings surely and firmly
- Popular size point sets come with tool—.039, .047, .074 in.—15°, 45° and 90° angles for easy insertion
- Point sizes .020, .060, .090 in. also available

One more solution to a problem job in industry by K-D Tools—the nation's largest maker of quality specialty tools for professional auto repair and maintenance.

Watch for K-D's solution to your problem!

K-D TOOLS *Making Hard Jobs Easy Since 1919*

K-D MANUFACTURING COMPANY
Lancaster, Pa.

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MODEL AG5 ACCU-FLOW AIR GAUGE

A general-purpose non-contact gauge for use as measurer or comparator on a variety of critical applications.

A new standard of accuracy...

ACCU-FLOW* by AMES

B. C. Ames has perfected a new concept of air gauging that offers extremely fine measurement and unusual stability.

AMES ACCU-FLOW air gauges give you an accurate non-contact measuring method that is ideally suited to checking size variations on continuous production items such as wire, rubber, plastics, etc. Send for free ACCU-FLOW folder.

*Trademark of B. C. Ames Co.

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B.C. AMES CO.

34 Ames Street, Waltham 54, Mass.

Canadian Representative—H. C. Burton Co. Ltd., Hamilton

MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

For more details circle **NED-838 K1** on enclosed inquiry slip

INDUSTRIAL DRY CLEANER removes lint, microscopic particles

Developed for total cleaning of Superclean Room clothing and accessories, Master Jet dry cleaning machine removes even lint, hair, and microscopic particles from garments and cloths. Cleaning solvents are continuously filtered, and absolute-filtered air is used during the drying cycle. • **Hoffman International Corp.**, 107 Fourth Ave., New York 3, N. Y.

For more details circle **NED-841 K1** on enclosed inquiry slip

JEFFREY CHAINS

a type and size to meet every service requirement

For new installations and for replacements. Stocked for your convenience by Jeffrey distributors at handy locations.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

For more details circle **NED-844 K1** on enclosed inquiry slip

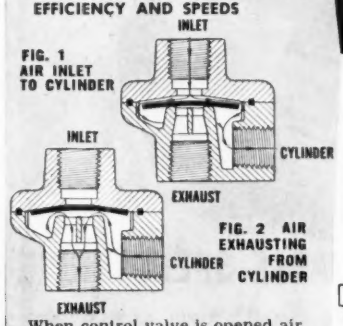
EMERGENCY LIGHTING SYSTEM turns on when normal light fails

Two 32-v dc emergency lighting systems, powered by stand-by charged Flexlab nickel-cadmium batteries, turn on automatically when normal power supply fails. Built-in supervisory circuits can also be employed to report any disruption in any part of the system, such as a burned out bulb in an Exit sign. Series 200 supervised zone controlled system provides up to eight emergency lamps per 2-wire circuit, while Series 100 handles lighting loads up to 320 w. • **Standard Electric Time Co.**, 89 Logan St., Springfield, Mass.

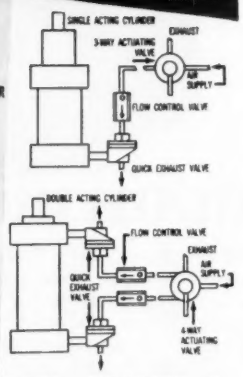
For more details circle **NED-842 K1** on enclosed inquiry slip

NEW! Pneu-trol® QUICK EXHAUST VALVE

Fast air dumping AT THE CYLINDER permits use of smaller valves and piping . . . INCREASES EFFICIENCY AND SPEEDS



When control valve is opened air pressure seals exhaust port and diaphragm is deflected permitting air to pass thru the cylinder port (Fig. 1). When inlet pressure is relieved (by actuating valve in control circuit) the buildup of cylinder return pressure closes inlet port (Fig. 2) snapping the diaphragm off the exhaust port allowing instantaneous evacuation of exhaust air. *Write for complete details, specifications and prices.*



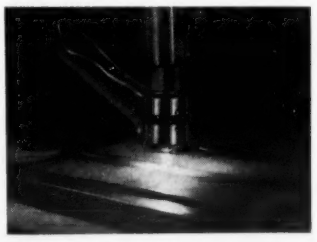
TYPICAL APPLICATIONS of Quick Exhaust Valves in Single and Double Acting Cylinders. Because exhaust air is dumped at cylinder, smaller diameter piping and smaller selector valves can be used

AUTOMATION AUTO-PONENTS INC. COMPONENTS

AUTO-PONENTS INC.
2929 Grant St. • Bellwood, Illinois

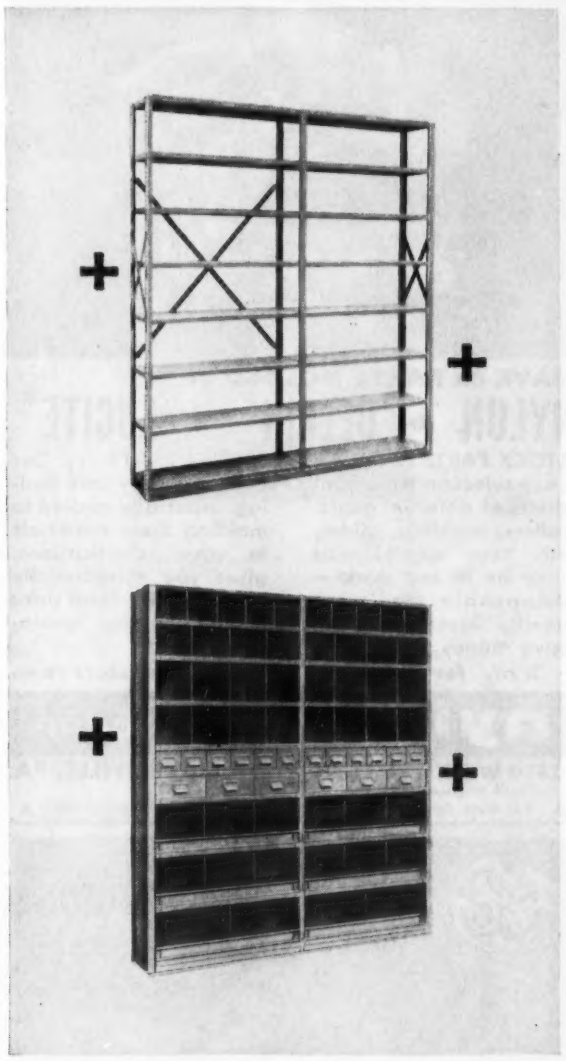
For more details circle **NED-839 K1** on enclosed inquiry slip

PLASMA JET TORCH cuts titanium, tungsten, Monel

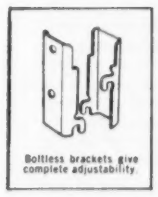


High melting point metals such as tungsten, titanium, Monel, Inconel, and stainless steel are easily cut at high speed by this plasma jet torch which utilizes a high velocity 30,000° F plasma flame. Quality of cut is high and, due to the momentum of the plasma stream, molten metal is flushed from the kerf region. A portable hand cutting version is also available. • **Plasmadyne Corp.**, 3839 S. Main St., Santa Ana, Calif.

For more details circle **NED-843 K1** on enclosed inquiry slip



ADD UP THE PLUSSES AND YOU'LL GET THE ANSWER!



Boltless brackets give complete adjustability.

DeLuxe steel shelving by Royal features these significant extras: I-beam uprights for extra strength, double-thick steel end panels to take extra weight. Patented boltless construction allows 15-minute section assembly—without tools. Meet changing needs more easily with a wide range of shelf units, bins, doors, drawers and dividers. Simplicity of design. Flexibility in use. Easy adaptability to other makes. You can't beat the convenience! You can't beat the service! Call or write DeLuxe Metal Products Division, ROYAL METAL MANUFACTURING COMPANY, Dept. 25-J, One Park Avenue, New York 16, New York.

DELUXE

For more details circle **NED-845 K1** on enclosed inquiry slip

Cleaning motors • generators • plant equipment?

Here's what TURCO-SOLV *Controlled Evaporation* means to you:

EFFICIENCY • Stays wet and working just long enough to clean thoroughly in a minimum of time.

SAFETY • Drastically reduces solvent vapors in the air, minimizing toxicity and flammability.

ECONOMY • Reduces consumption of material. Eliminates "touch up." Gives you a "bigger gallon."

Write for FREE BROCHURE! Reveals flammability, toxicity, efficiency and evaporation ratings of various safety solvents available on the market today!

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24600 South Main Street, Wilmington, Calif.
Factories: Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Paris, Montreal, Hamburg, Naha (Okinawa)
Manufactured in Canada by B.W. Deane & Co., Montreal
OFFICES IN ALL PRINCIPAL CITIES

For more details circle **NED-840 K1** on enclosed inquiry slip

HINT TO USERS OF HIGH CARBON STEEL WIRE

Save with Roebling's big, long-run bundles ... up to 3000 lbs in a coil. Wide range of sizes. And consistently true to specifications. Write for details to Roebling's Wire and Cold Rolled Steel Products Division, Trenton 2, New Jersey.

P.S. For upholstery springs, ask about money-saving SpringKote* Wire.

*Reg. applied for.

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John A. Roebling's Sons Division • The Colorado Fuel and Iron Corp.

For more details circle NED-846 K1 on enclosed inquiry slip

SAVE on PARTS MOLDED of

NYLON • DELRIN* • LUCITE*

STOCK PARTS . . . Make your selection from hundreds of different gears, rollers, bushings, glides, etc. Your "special" part may be in our stock — adaptable to your needs. Investigate and save money.

Write for Catalog

SPECIAL PARTS . . . Our patented, low-cost tooling, especially geared to molding these materials to your specifications, gives you exceptionally low unit cost. Send print or sample for quotation.

We welcome short runs.

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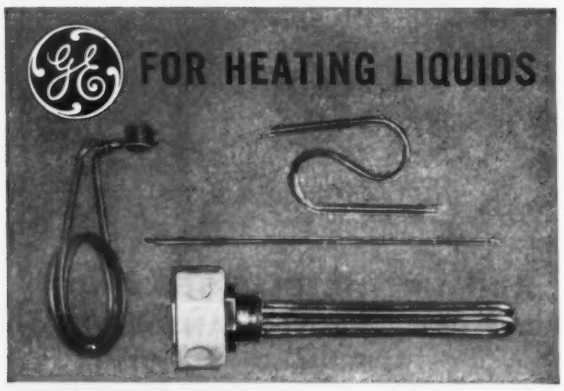
2610 WEST TRENTON AVE. • MORRISVILLE, PA.

*Du Pont Registered Trademarks.

For more details circle NED-847 K1 on enclosed inquiry slip



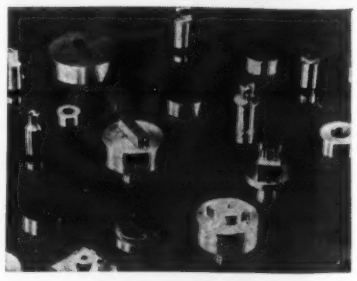
CHOOSE A GENERAL ELECTRIC CALROD® immersion heater when you build heat into your product or process. It's the cleanest, most economical method of heating liquids . . . water, oil, alkaline, or plating solutions . . . in almost any kind of container. You'll get long life, and can easily obtain precisely controlled heat. Models from 650 to 10,000 watts are available from General Electric's complete line of heating equipment.

FREE 48-PAGE CATALOG with completely indexed heaters and heating control prices, application tips, tables and curves. Write Section 757-04, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

For more details circle NED-848 K1 on enclosed inquiry slip

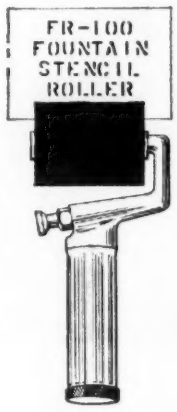
PUNCHES & DIES for electrical, electronic punching



Expanded line of special punches and dies for electrical and electronic punching provides over 110 sizes available off-the-shelf. Additions include D and double-D shapes, hexagon cutouts, outlet knockouts, keyhole, 7 and 9-pin tube bases, receptacle, keyway, tab, trim and cutoff, and corner rounding styles. Three and four-section lytic, IF condenser, and cable opening punches and dies are also available, but require advance specification. Concentricity is within 0.0005 in. Punches 13/16 in. and larger, and requiring more than 4 tons to punch 16-gage mild steel, are ground with a twin shear to reduce necessary punching power about 50 per cent. • **Di-Acro Corp.**, 582 Eighth Ave., Lake City, Minn.

For more details circle NED-849 K1 on enclosed inquiry slip

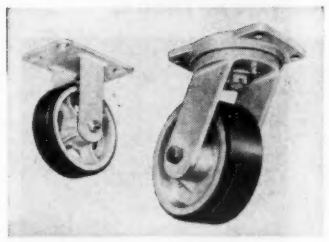
STENCIL ROLLER ink pumps from handle reservoir



Ink for this FR-100 Fountain Stencil Roller is pump fed from the reservoir in the handle to the inside core of the foam rubber roller. Thumb or finger pressure operates the pump feed, affording operator control of ink feed for light or heavy marking. Reservoir holds 3 oz of ink, enough for about 1000 markings. Roller is easily replaced in the 12-oz device. • **Marsh Stencil Machine Co.**, Belleville 5, Ill.

For more details circle NED-850 K1 on enclosed inquiry slip

URETHANE TREAD CASTERS in 4 to 12-in. diameters



Floor-protective, high capacity swivel and rigid casters equipped with Duralast polyurethane tread wheels are obtainable in 4 to 12-in. wheel diameters and tread widths from 1½ to 4 in. Capacities range from 500 to 4000 lb each. Tread material reportedly outwears ordinary rubber five to ten times, affords easy rolling, and is impervious to oil, brine, and most solvents. Wheels are noiseless and nonmarking, and can be equipped with swivel locks and brakes. Tapered roller bearings are provided in 6-in. and larger sizes. • **Hamilton Caster & Mfg. Co.**, 1700 Dixie Highway, Hamilton, Ohio.

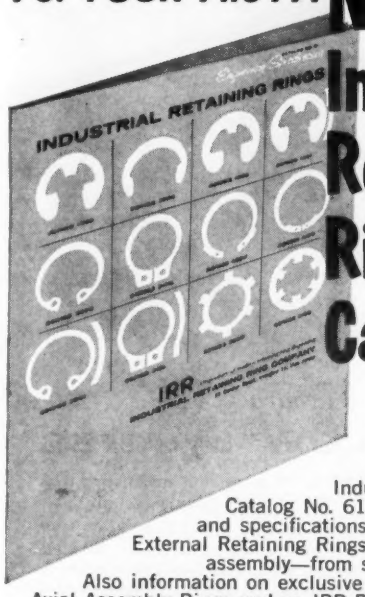
For more details circle NED-851 K1 on enclosed inquiry slip

SNOW REMOVER extensions increase cleaning path

Snow removal time with the Jari 2-Way Snowthrower announced last year (*NED, Sept.* '60) is cut almost in half with new snowplow extensions available optionally. The easily clamped-on extensions enable the snowplow to clear a 36-in. path instead of the machine's normal 20-in. swath. They are effective in up to 6-in. snow. Deflectors added at each end of the discharge chute deflect snow downward in confined quarters. These can be flipped out of position for normal throwing of snow up to 30 ft. Adjustable steel wheels on front housing permit operation on rough or gravel surfaces. Discharge chute can be reversed for throwing in either direction. Removal rate is 520 shovelsful per minute without extensions. The unit lists for $199.50; the extensions, $14.90 per pair. • **Jari Products, Inc.**, 2980 Pillsbury Ave. S., Minneapolis 8, Minn.

For more details circle NED-852 K1 on enclosed inquiry slip

For YOUR File . . . New! Industrial Retaining Ring Catalog



Industrial Retaining Ring Catalog No. 61 contains information and specifications on IRR Internal and External Retaining Rings—for axial and radial assembly—from sizes .040" to 4.125". Also information on exclusive IRR "PRE-STACKED" Axial Assembly Rings and on IRR Pliers and Accessories. It is easy to work with and will assist in design, purchasing and production.

Ask for Catalog No. 61N

Originators of modern retaining ring dispensing

INDUSTRIAL RETAINING RING COMPANY

57 Cordier Street, Irvington 11, New Jersey

For more details circle NED-853 K1 on enclosed inquiry slip

"ZERO TO FULL SPEED IN NOTHING FLAT!" with ZERO-MAX

STEPLESS VARIABLE SPEED DRIVE

ZERO-MAX new "400 Series" gives you stepless variable speed from zero to 1200 rpm instantly and accurately with just a finger's touch on the control lever. These compact, quality drives produce constant torque-ratings of 3 to 450 inch-pounds with fractional horsepower 1800 rpm motors. Over 250 models are available with or without safety disconnect, gearhead, reverse, or motors. Quality at LOW COST makes ZERO-MAX ideal for original equipment. *Write for free 16 page catalog.*

AS LOW AS $45.00

THE ZERO-MAX COMPANY

2855 Harriet Ave. So., Minneapolis 8, Minn.

For more details circle NED-854 K1 on enclosed inquiry slip

GRINDING COOLANT

• Cools with water—prevents rust.

Transparent, detergent action Houghto-Grind 50 contains no oil, prevents wheel loading, keeps finishes free from grinding cracks and burns. Built-in rust inhibitor protects freshly ground surfaces even at dilutions of 100 to 200:1. Stable, non-foaming solution won't turn rancid and on disposal, will not pollute streams.

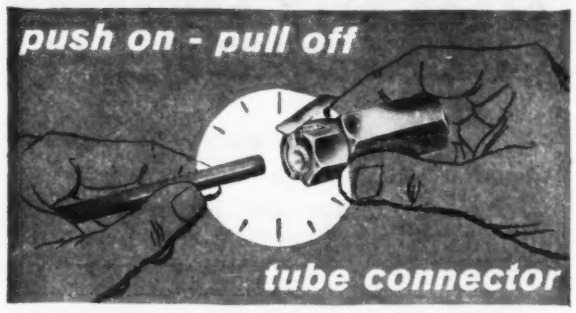
Write for Data Sheet.
E. F. Houghton & Co.
303 W. Lehigh Ave.
Philadelphia 33, Pa.

Houghton

INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-855 K1 on enclosed inquiry slip

AUTOMATIC LOCKING



Instantly connects pressure and vacuum lines to straight end tubing

Simply push the Connector over end of tubing and press to "stop" position. This **AUTOMATICALLY** locks tubing into place for a leak-proof seal. To unlock, press Thumb Pad and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for ⅛" to 1½" OD tubing. Other sizes to order. Write for Catalog and prices.

for AIR WATER, STEAM, FREON, etc.

mp MECHANICAL PRODUCTS CORPORATION
1724 West Hubbard Street, Chicago 22, Illinois

For more details circle NED-856 K1 on enclosed inquiry slip

For more details circle NED-857 K1 on enclosed inquiry slip

NEW BLU-RAY Whiteprinter offers 50% MORE SPEED!

MAKES CLEAR DIAZO PRINTS IN SECONDS FOR PENNIES!

Copies anything printed, typed, drawn or written on any translucent material. Just slide Tracing and Diazo Paper thru BLU-RAY. Get FAST, EXACT EXPOSURE.

Makes Sepia Reproducibles

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3 Lamps for faster operation. No warm-up. Speed control for exact exposure. 3 Models: 14", 27", 42" print width capacities: any length. Portable.

Thousands of Guaranteed BLU-RAYS in use not because they're the cheapest, but because they're the best, most reliable dollar value. Get a demonstration and see for yourself.

AVAILABLE ON LOW COST MONTHLY LEASE PLAN

NOW BLU-RAY OFFERS 2 DIAZO DEVELOPERS

1. NEW FLUTED SEE-THRU AMMONIA DEVELOPER TUBE. FROM $11.55

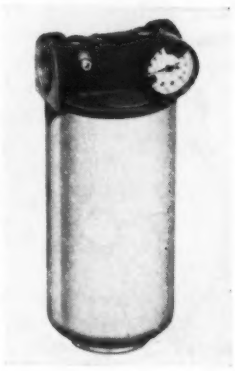
2. NEW CONTINUOUS ROTARY DRY DEVELOPER FOR FASTER DEVELOPING. For use with BLU-RAY and other Rotary Diazo Whiteprinters. 3 Models from $129.50

SEND FOR LITERATURE OR DEMONSTRATION IN YOUR OFFICE

BLU-RAY by R.E.C. Reproduction Engineering Corporation 7 Westbrook Road, Essex, Connecticut

For more details circle NED-858 K1 on enclosed inquiry slip

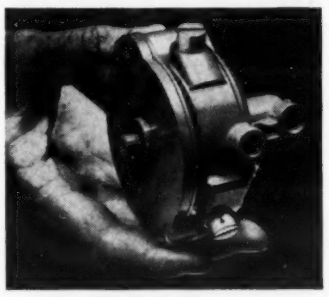
HYDRAULIC FILTERS
full-flow type is rated 60 gpm



A built-in pressure gage indicates when this hydraulic line filter needs the element cleaned or replaced. Equipped with 1¼-in. ports, it can be installed in the suction or return line. A by-pass protects the filter element which may be a replaceable 200-sq in. 100-mesh Monel cloth unit or one of two interchangeable disposable 1400-sq in. phenol-treated paper elements of 10 or 33-micron porosity. Operating temperature is −65 to 300° F, and pressure is 100 psi. With the wire element, it handles up to 60 gpm with a 5-psi pressure drop. • **Gresen Mfg. Co.**, 405 35th Ave. N. E., Minneapolis 18, Minn.

For more details circle NED-859 K1 on enclosed inquiry slip

AUXILIARY GOVERNOR
keeps take-off speed constant



Though designed for use on hydraulic systems, this auxiliary governor system is adaptable for controlling the speed of any hydraulic or mechanical device powered by gasoline engines. It will control the speed of engine-driven power equipment within close preset limits. It operates from a driven unit mounted on the power take-off and automatically adjusts the engine throttle to maintain a specific speed, regardless of load variations. It is custom-fitted to the equipment to meet the user's needs. • **Holley Carburetor Co.**, 11955 E. Nine Mile Rd., Warren, Mich.

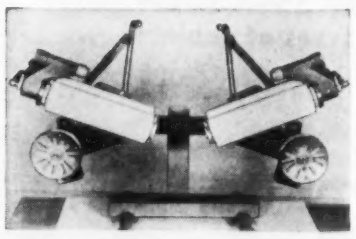
For more details circle NED-860 K1 on enclosed inquiry slip

LABEL PRINTER-DIE CUTTER
makes pressure-sensitive labels

Printmatic table-top printing and die-cutting machine simultaneously prints, die-cuts, removes waste, and rewinds pressure-sensitive labels from roll label stock. Tape is processed at a rate of about 110 labels per minute. Labels produced in either production run or short run quantities are ready to use, having been printed with smudge-resistant ink that requires no drying time. On-the-spot changes of label size, color, or shape are quickly made. Packaging, pricing, coding, identification, inspection, and other types of labels in various sizes and shapes up to 2 x 3 in. are made by the $650 machine. • **Adhesive Label Corp. of America**, Dept. 10W, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-861 K1 on enclosed inquiry slip

WEB CONTROL GUIDES
low cost units for nonacid service



Economy Models A and B precision web control guides afford savings to textile, paper, and plastics manufacturers who do not have severe acid conditions. These units perform in the same manner as standard Model S stainless steel guider, assuring accurate lateral alignment of materials ranging from the heaviest of fabrics to the lightest of films. Model A, with aluminum frame and stainless accessory parts and nip roll denippers, is built for wet and mildly acid service. Model B, built of aluminum with cadmium-plated steel accessory parts, is designed for dry or damp service. Units detect misalignment instantly and automatically adjust for deviation by tilting a pair of nip rolls. • **Mount Hope Machinery Co.**, 15 Fifth St., Taunton, Mass.

For more details circle NED-862 K1 on enclosed inquiry slip

Any increase in friction due to lubrication failure is a serious hazard in the operation and life of any bearing. With the new Teflon-lined Unibal spherical bearings and rod ends, no lubrication problem exists in the normal operating range.

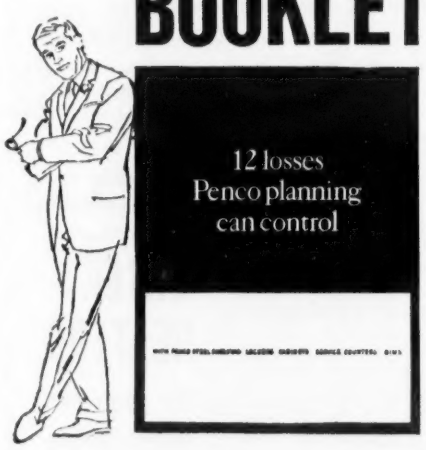
Teflon lined bearings provide all the advantages of high load ratings inherent in this type of single-ball construction, self alignment, and simplicity of assembly, PLUS the long wearing, low friction, self lubricating, high impact properties of Teflon.

Send for illustrated bulletin.

THE HEIM COMPANY
800 SANFORD STREET
FAIRFIELD, CONN.

For more details circle NED-863 K1 on enclosed inquiry slip

NEW PENCO BOOKLET



How to control 12 costly plant losses with PENCO-PLANNED shelving, lockers, specialties . . .

- ☐ Waste Space
- ☐ Cleaning Costs
- ☐ Stealing
- ☐ Low Employee Morale
- ☐ Poor Inventory Control
- ☐ Production Bottlenecks
- ☐ Slow Order Filling
- ☐ Excessive Damage
- ☐ Shipping Bottlenecks
- ☐ High Insurance Costs
- ☐ Accidents
- ☐ Excessive Handling Costs

A brand-new, 16-page, illustrated thought-starter that gives proven guidance, informative facts, on how to use Penco storage equipment to reduce common plant losses.

If your company is considering new *shelving, lockers, cabinets, counters,* or *metal storage specialties,* read this Penco Planning Booklet before you buy! Read how to control up to 12 major drains on plant efficiency, profitability.

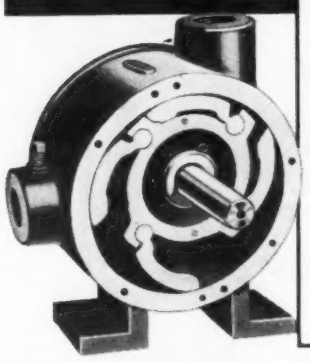
Request your copy now . . . free on request. Address Dept. F.

ALAN WOOD STEEL COMPANY
PENCO DIVISION
Oaks, Pennsylvania

For more details circle NED-864 K1 on enclosed inquiry slip

BIGGEST SCOOP in AIR PUMPS!

Leiman CURVED VANES SCOOP UP MORE AIR
- - provide high capacity with slower speeds and less wear



• Four curved vanes scoop up large volumes of air—provide 2 to 3 times more air space. Mounted on easy-action hinges to assure perfect contact with cylinder walls by centrifugal force. Vanes and cylinders made of durable cast iron (no composition). Hone themselves to hard, glassy smoothness to assure leak-proof seal and reduce frictional wear. Negligible wear is automatically taken up by rotating vanes.

Leiman Air Pumps maintain new-pump efficiency and fully-rated vacuum or pressure for the life of your equipment, with little or no maintenance or repair.

Fewer moving parts—no gaskets or packing—no composition vanes to wear out or renew. Pulseless airflow—every pump tested. Many models and sizes to meet your needs. Over 70 years' air engineering at your service on any design or application.

LEIMAN Rotary Positive **AIR PUMPS**

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

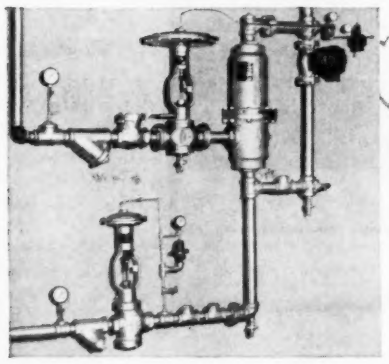
WRITE FOR NEW CATALOG plus Application Book showing hookups.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N. J.
Established 1889

For more details circle **NED-865 K1** on enclosed inquiry slip

HOT WATER INSTANTLY

Accurate Temperatures . . .
Low Cost . . . Any Quantity from 500 to 50,000 Gallons Per Hour!



Pick STEAM INJECTION

WATER HEATERS

for high or low pressure steam

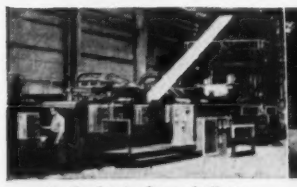
Direct contact of steam and water in the Pick patented mixing chamber produces hot water at the desired temperature, and in the required quantity, *instantly!* There's no time lag . . . no steam wasted to maintain heat in stored water . . . steam used only as hot water is drawn. Water temperature maintained within 3° plus or minus. Volume adjustable from 5% to full rated capacity. Pick heaters require no floor space . . . usually installed on wall. Whatever your hot water needs are, Pick will do it faster, more accurately and at lower cost!

FREE CATALOG — Contains complete information and specifications. Write today to Dept. P.

Pick WATER HEATERS

PICK Manufacturing Co.
Water Heater Division
WEST BEND, WISCONSIN

Used by America's Leading Industries:



U. S. Steel, Gary, Indiana
Continuous annealing line

Bates Mfg. Co., Lewiston, Maine
Finishing Process of Bedspreads

General Aniline & Film Corp.
Linden, New Jersey
Filter press washing

Gerber Products Co.
Fremont, Michigan
Sterilizing, washing & processing

For more details circle **NED-866 K1** on enclosed inquiry slip

PERFORMANCE CHART
plots data which is goal-directed

Sales performances, production quotas, financial figures, and other quantitative data can be graphically presented on the Target chart. It is designed for graphically plotting data which is goal-directed, and shows clearly how closely the data approaches the goal or innermost circle—the bull's eye. Chart permits plotting of data weekly, monthly, quarterly, annually, or by other suitable time period. If desired, it can be used perpetually.

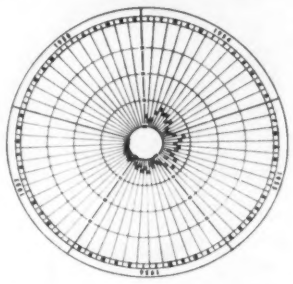
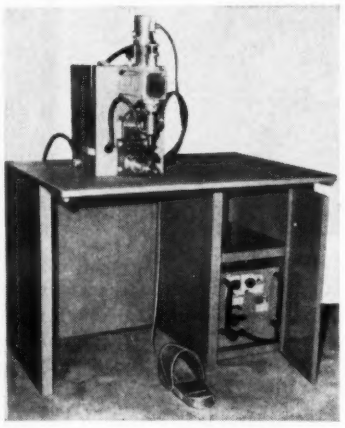


Chart is available in pads of 25 sheets printed on 8½ x 8½-in. paper, or in pads of 10 on 16 x 16-in. stock. Larger size can be glazed, mounted, or framed for permanent display. • **Compton Chart Productions,** 239 E. First Ave., Roselle, N. J.

For more details circle **NED-867 K1** on enclosed inquiry slip

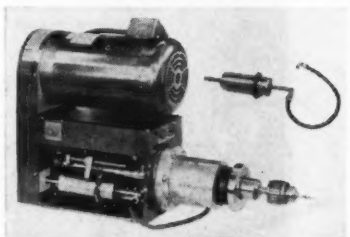
BENCH SPOT WELDER
has 162 current settings

Both ferrous and nonferrous metals can be handled by the Model M 33 VP press type bench spot welder. It can be used in heavy or delicate work, as its welding pressure is adjustable from 3 to 330 lb. Other features are fast follow-up through air and spring pressure combination, air or foot operation, waterproof construction, and 162 current settings from 900 to 16,000 amp by vernier regulator. • **Aro Spot Welder Corp.,** 66-10 Woodside Ave., Woodside 77, N. Y.



For more details circle **NED-868 K1** on enclosed inquiry slip

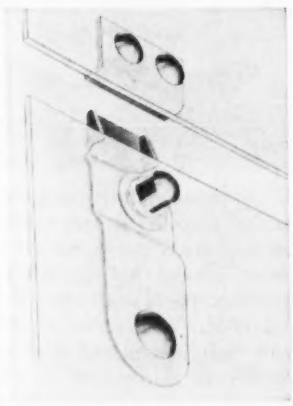
DRILL & TAP CONTROL
regulates spindle thrusts



Attached to Series 28 Drill-N-Tap portable drill unit, this drill and tap control (pictured above the drill spindle) closely regulates spindle thrust to take advantage of combination drilling and tapping tools. During the drilling portion of the stroke, control is idle to allow maximum thrust. As the threaded section of the tool engages the work, the control cancels out a predetermined portion of the advance pressure, producing a light, tapping thrust. Tool feeds itself into the work without excessive tool or material stresses. Control is quickly adjustable and facilitates rapid changes in tool sizes. Models for single and multiple spindle attachments are available. • **Dumore Co.,** 1300 Seventeenth St., Racine, Wis.

For more details circle **NED-869 K1** on enclosed inquiry slip

PUSHBUTTON RELEASE CATCH
for lift-off covers of cabinets



Readily mounted on the inside of cabinets by rivets or welding, this quick-release holddown is operated by merely pushing the button and lifting the cover to open. When slammed shut, it affords automatic, positive latching. This ¾-in. wide, 2½-in. long unit is made with 90 or 180-degree keeper mounting. Keeper and release button are cadmium plated steel, and the steel spring is Lubrite finished. • **South Chester Corp.,** Southco Div., 200 Industrial Highway, Lester, Pa.

For more details circle **NED-870 K1** on enclosed inquiry slip

SARCO SELF-POWERED COOLING CONTROL T-44

Compact . . . accurate . . . inexpensive
. . . prevents under- and over-cooling
. . . saves water . . . increases efficiency

USE FOR compressors, small engines, oil coolers, water-cooled rolls, dry cleaning stills, condensers, solvent coolers, and water-cooled bearings.

FEATURES: simple, trouble-free design . . . no compressed air or electricity necessary. Fully modulating . . . packless . . . self-contained.

CONSTRUCTION: single seated valve . . . cast red brass body . . . renewable, hardened stainless steel valve head, stem and spring . . . removable hard bronze seat . . . copper thermostat. Sizes ⅜", ½", ¾" and 1".

STANDARD 50° adjustment ranges within which user can adjust: 60-100°F; 85-135°F; 110-160°F; 135-185°F. Special 50° ranges between 40 and 210°F are available.

FREE BULLETINS!

Contact your Sarco sales representative, district office, or distributor, or write: 6903

SARCO

SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA.

For more details circle **NED-871 K1** on enclosed inquiry slip

This company saved $195.42 in v-belt maintenance stock by switching to VEELOS

There are 74 v-belt driven machines using a total of 240 belts in this company's plant. The stockroom carried 110 spare endless belts of 11 different lengths in A, B and C widths. This maintenance stock cost $507.52. But it still didn't provide for replacement of 8 B drives and 2 C drives.

By switching to Veelos, this company was able to stock 1 reel of A, 1 reel of B and 1 reel of C at a total cost of only $312.10. And these three reels of Veelos insured adequate maintenance stock for *all* 74 machines at a clear, cash saving of $195.42. In addition, the company gained 178 hours of production time annually. These hours represented machine downtime required to install endless belts on enclosed drives.

These are just two of the substantial savings you get when you standardize on Veelos. Ask your Veelos distributor or write direct for free Veelos Data Book.

VEELOS THE BALANCED LINK V-BELT

MANHEIM
Manufacturing & Belting Company
Manheim 4, Penna.

Veelos is known as Veelink outside U.S.A.

For more details circle **NED-872 K1** on enclosed inquiry slip

DO U BEND U BENDS?

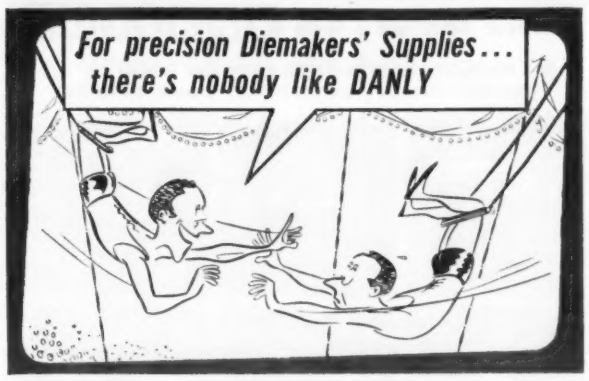
Whether you bend "U" bends or other type bends from pipe, tubing, bus bar or structural metal, you'll bend it better, faster, more economically with Pedrick Production Benders.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

"Why don't you send for the NEW PEDRICK LINE BULLETIN. Do it now."

BEND WITH PEDRICK

For more details circle **NED-873 K1** on enclosed inquiry slip



Nothing performs with more dependable precision than Danly Diemakers' Supplies. Every item — whether it's a die spring, dowel pin, socket screw, spring retainer or die set component — is engineered to give you the maximum precision that means better diemaking, better die performance. And the complete line is stocked for immediate delivery at your nearby Danly distributor. Call him the next time you need *precision* diemakers' supplies.

DANLY

NEW descriptive literature on PRECISION PILOT GUIDE POSTS tells how this latest Danly improvement can smooth your die set assembly. Write for your copy.

Mechanical Presses, Die Sets, Diemakers' Supplies, Hydraulic Metalworking Equipment

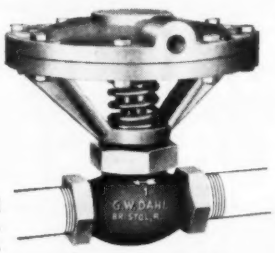
DANLY

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Ave., Chicago 50, Illinois

For more details circle NED-874 K1 on enclosed inquiry slip

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

MINIATURE CONTROL VALVES REDUCE SPACE, WEIGHT, COSTS!



Approx. ¼ actual size

Dahl BANTAM Control Valve, Model 2020 . . . for on-off, quick-opening, or moderate throttling control . . . features excellent flow characteristics, low hysteresis, and fast response. Optional plug trims determine type of control.

Rated for 150 psi steam or 300 psi liquids and gases, the highly compact 2020 series offers choice of 8, 15, or 50 square-inch reverse or direct-acting, diaphragm operators. Connections in cast globe body range from ¼" to 2" N.P.T. Teflon packing eliminates frequent adjustment, reduces maintenance. Maximum C_v is 40.0; seat areas up to 3.1 sq. in.; ⅝" lift.

Similar series include valves with reverse-acting plugs held closed by spring compression and three-way styles for diverting, blending or selecting. Request Catalog B-1 for complete data. Write G. W. Dahl Co., Inc., 88 Tupelo Street, Bristol, Rhode Island.

G. W. DAHL CO., INC.
SPECIALISTS IN COMPACT VALVES AND CONTROLS

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

For more details circle NED-875 K1 on enclosed inquiry slip

AIR-MITE AIR CYLINDERS

★COMPACT ★POWERFUL ★RUGGED ★LOW COST

AIR-MITE Cylinders—made in Single or Double Acting Series, in 4 mounting types, are high quality cylinders at a low price. Simple, rugged design and compact construction give them long life, permit easy mounting on jigs, fixtures, tools, or machines. Used wherever power holding, pushing, pulling, or lifting is required, AIR-MITE Cylinders will meet your most exacting requirements of dependability and long life. Write for complete catalog and prices.

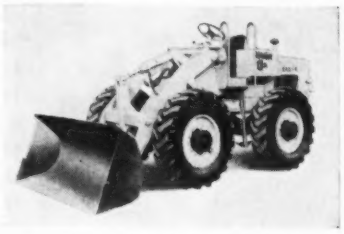
QUALITY FEATURES:
1 Ground and polished steel ram
2 Brass, true-bore cylinders
3 High strength aluminum alloy cylinder heads
4 Bronze oilless ram bushing
5 Five steel tie rods

92

AIR-MITE DEVICES, INC.
4403 W. Kinzie St., Chicago 24, Ill.

For more details circle NED-876 K1 on enclosed inquiry slip

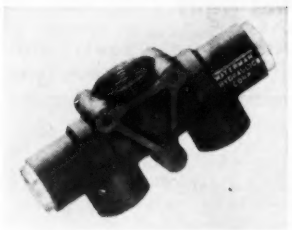
TRACTOR-SHOVEL
improved unit has 1¼-cu yd bucket



Still the smallest four-wheel drive Payloader tractor-shovel, the Model H-30 Series B version has a 1¼-cu yd bucket, an increase of 25 per cent. Walk-in operator compartment, new hand rails and safety ladder, adjustable bucket seat, and new controls for the Paylomatic power shift transmission are design features. Sealed against dust and dirt, the four-wheel hydraulic brakes give equal forward and reverse braking. Transmission has three speeds in both forward and reverse, and all shifts are made without stopping the vehicle. Dual brake pedals offer the choice of braking with or without the transmission engaged. Engine is gasoline or diesel. • **Frank G. Hough Co.**, 798 Seventh Ave., Libertyville, Ill.

For more details circle NED-877 K1 on enclosed inquiry slip

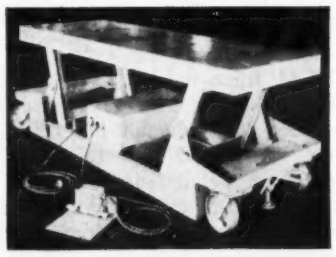
FLOW DIVIDER-COMBINER
can have equal, unequal calibration



Model 1467 flow divider-combiner valve is used where two hydraulic actuators are required to operate in unison. As a divider, it divides up to 40 gpm pump output into two equal flows for simultaneous operation of two cylinders or other uses. When used as a combiner, it equalizes return flows of two cylinders to equalize piston speeds. Valve can also be ordered with factory calibration to any unequal combination. One or both divided flows may be redivided with additional valves. Neither constant flow rate or pressure is required for proper functioning. Valve has one 1-in. NPTF port and two ¾-in. NPTF ports, is suited for up to 3000 psi, and weighs 2.4 lb. • **Waterman Hydraulics Corp.**, 725 Custer Ave., Evanston, Ill.

For more details circle NED-878 K1 on enclosed inquiry slip

ELEVATING TABLE & TRUCK
eases sheet transporting, feeding



Transporting and feeding of metal sheet and plate stock to punch presses, shears, and similar equipment are facilitated by Model 600 Steelmobile Senior, a combination elevating feed table and transport truck. The solid steel plate top is operated by a heavy duty scissors mechanism powered by a ¾-hp 220/440-v three-phase gear motor with brake. Unit will elevate up to 6000 lb loads from height of 20 in. to 36 in. Entire truck is mounted on four steel swivel casters equipped with swivel locks. It can be towed from either end under full load. Unit is delivered with a foot pedal or side-mounted pushbutton control. Floor locks are also available. • **Jarke Mfg. Co.**, 6333 Howard St., Chicago 48, Ill.

For more details circle NED-879 K1 on enclosed inquiry slip

OIL FILTERS
have capacities up to 300 gpm

Two-stage Micronic filtration utilized in the OFM Series of oil filters traps and retains foreign particles over 8 to 10 microns in size. Outer layer of untreated alpha cellulose affords a pure absorbent surface with high affinity for dirt, moisture, and acid. Inner impregnated layer of same material then receives the oil for fine straining. Filters provide full flow filtration at low flow rates. At high flow rates the increased pressure differential causes a poppet valve to open to direct a portion of the oil to bypass the poppet and rejoin that oil directed through the filter. Three basic sizes with capacities up to 300 gpm and several porting arrangements are offered. • **Vickers Inc.**, Dept. 1456, Detroit 32, Mich.

For more details circle NED-880 K1 on enclosed inquiry slip

Signode Adjusta-Pak container telescopes in all 3 dimensions

• Saves time and money
• Eliminates various sizes of master containers
• Speeds packaging of mixed lot shipments
• Improves product protection

New booklet shows how Adjusta-Pak works, shows how Adjusta-Pak is used to package textiles, machinery, sheet steel, paper products, wood doors. Send for your free copy of this way to new packaging savings today.

SIGNODE STEEL STRAPPING CO.
Dept. SP, 2643 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

For more details circle NED-881 K1 on enclosed inquiry slip

Fast New Signode All-Power Strapping Tool

AMP SERIES

Air power tensions, seals, and severs the strap • Extremely simple 3-step operation • Compact, balanced design; easy to use on small and large surfaces • Durable steel base • Weighs only 22 lbs. • Universal suspension bracket allows for strapping on top or side of package • Uses easy-loading Signode NESTACK seals that reduce waste and delay • Models for ⅝", ¾" strapping, .015" to .035" gauge • Tension adjustable to 1200 lbs. at 90 p.s.i., regular models. For additional information, write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

For more details circle NED-882 K1 on enclosed inquiry slip

For safer, stronger joints on painted or waxed 1¼" steel strapping

SIGNODE MICROGRIP SEALS

The greatest advance in seals for steel strapping in 40 years!

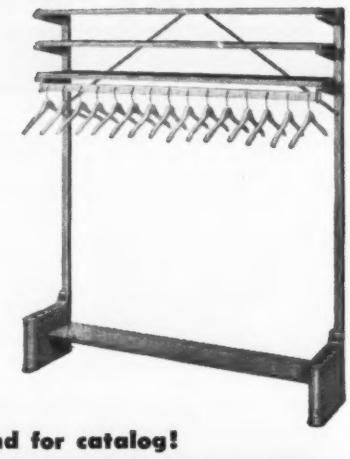
High friction mastic compound provides strong, frictional bond at the crimping point. Bites through the surface of painted, painted and waxed, or waxed Magnus and Heavy Duty steel strapping as used direct from the dispenser to produce a joint approximating the strength of strap being sealed. Sealing accomplished with a minimum of effort. Available in two types for 1¼" strapping. For price and ordering information, write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

For more details circle NED-883 K1 on enclosed inquiry slip

Big Buy ! . . Borroughs

GARMENT RACKS



Look carefully at this handsome member of Borroughs "Executive" Garment Rack line. Marproof "Wonder Bar" reverses to increase hanger capacities. Apex-ridged shelves keep hats shapely. Coats hang clear and uncrowded. Umbrella holders have easy-glide drip trays. Choice of standard models and special combinations.

Send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-884 K1 on enclosed inquiry slip

Increase bearing life up to ten times

With New McGILL Heavy Duty CAGEROL® Cage Type Needle Roller Bearings

You need CAGEROL bearing performance if higher speeds and increased misalignment have prevented the utilization of needle bearing load capacity in your applications. CAGEROL bearings can deliver up to ten times more expected life where misalignment and increased speeds exceed the capacities of ordinary end guided needle bearings. McGill construction features tapered retainer pockets for balanced roller guidance, crowned rollers, and black oxide retainer finish. CAGEROL bearings are interchangable with all heavy duty needle roller bearings — with or without inners in two bore sizes.

Write for helpful Bearing Handbook No. H-62 for complete data

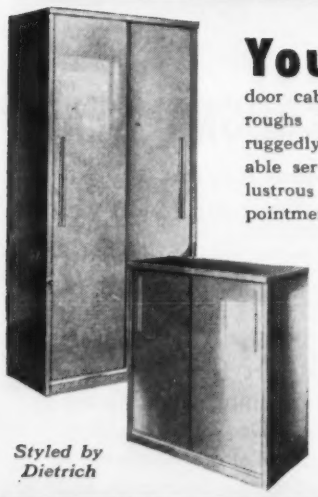
engineered electrical products — McGILL® precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

For more details circle NED-885 K1 on enclosed inquiry slip

Big Buy ! . . Borroughs

STEEL CABINETS



Your best buy in sliding-door cabinets is the popular Borroughs line. These cabinets are ruggedly constructed for long, durable service—smartly styled, with lustrous anodized aluminum appointments—designed for top efficiency, with doors that slide quietly with a touch of the finger, and sliding shelves that are adjustable without nuts or bolts. Many more convincing facts await you.

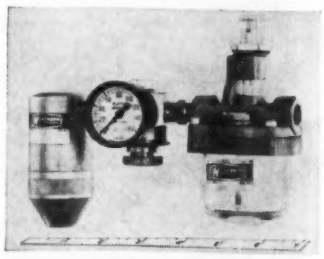
Styled by Dietrich

Send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-886 K1 on enclosed inquiry slip

AIR FILTER-REGULATOR has 12-cfm capacity at 100 psi

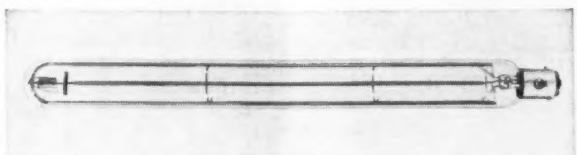


Small packaged Combomatic unit for filtering, regulating, and lubricating compressed air incorporates an automatic drain trap on the filter to prevent moisture from accumulating in the sump. Filter is aluminum with Buna-N seals. The all-brass regulator and gage controls air pressure, and the compact, externally adjusted lubricator atomizes oil particles into the air stream for deposit on surfaces being powered by the air. Sight gage shows amount of oil being atomized. Model 64240-2 has 12-cfm capacity at 100 psi air pressure and is offered in 1/4-in. pipe thread. It weighs 2 1/2 lb and can be used on air valves and cylinders, small air tools, die grinders, and small air motors. Price is $23.45. • **Wilkerson Corp.**, 1633 W. Mansfield, Englewood, Colo.

For more details circle NED-887 K1 on enclosed inquiry slip

STRAIGHT FILAMENT LAMP delivers directional light

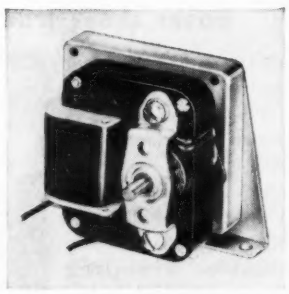
Substantial increase in directional candlepower with no increase in wattage is achieved with a ribbon type filament in this straight filament lamp. The filament



is spring tensioned and remains perfectly straight during operation, permitting precise light location. Lamp is particularly useful in punched card readout devices and can be made in lengths to 7 in. or more. • **Chicago Miniature Lamp Works**, Dept. ND-5, 1500 N. Ogden Ave., Chicago 10, Ill.

For more details circle NED-888 K1 on enclosed inquiry slip

FRACTIONAL-HP GEARMOTOR delivers 50 lb-in. at 1 rpm



A magnetic clutch which disengages rotor pinion from remainder of gear train is featured by Type HGM fractional-hp gearmotor. The two - pole shaded-pole induction motor, in 6 to 220-v ac ratings can be designed for continuous or intermittent operation. Use of nylon helical rotor pinion and first gear contribute to low operating noise level. Output speeds range from 1 to 800 rpm with output torque of up to 50 lb-in. at 1 rpm. Output shaft in 3/16, 1/4, 5/16, and 3/8-in. lengths may be extended from either or both sides of totally-enclosed, diecast gear reducer. Special mounting accommodations are available. • **Molon Motor & Coil Corp.**, 3737 Industrial Ave., Rolling Meadows, Ill.

For more details circle NED-889 K1 on enclosed inquiry slip

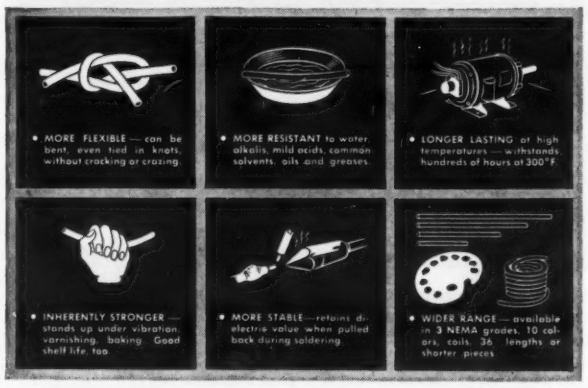
FOAM INHIBITOR for wet pick-up vacuum cleaners

Build-up of foam inside wet pick-up vacuum cleaners is prevented by the Defoamer Pouch which consists of a foam-inhibiting chemical enclosed in a screen pouch. This is attached to the intake deflector of any vacuum cleaner. Chemical quickly breaks down suds as scrub water enters the tank. After cleaner has sucked up and treated three or four tankfuls, a thin film of material will be deposited on the filter and inside tank walls. This speeds the breakdown of foam inside the machine. Kits consisting of three pouches are offered, as are special shutoff kits containing one defoamer pouch and one disposable shutoff cartridge. • **Multi-Clean Products, Inc.**, 2277 Ford Parkway, St. Paul, Minn.

For more details circle NED-890 K1 on enclosed inquiry slip

Where can you use VARFLO?

(the highly flexible Class B Sleeving and Tubing that licks Class A in performance—equals it in price)



Cuts inventory, too! Superior to Class A insulation in performance—yet on a par with it in price—Varflo Sleeving and Tubing can be used economically for all Class A and Class B installations. This low-cost adaptability of Varflo enables many of our customers to achieve substantial savings in inventory. Available in NEMA Grades A-1 and B-1 tubing and Grade C-2 sleeving.

Perhaps Varflo can solve your insulating problems. Describe them in a letter—no cost or obligation for our recommendations. Samples available.

Varflex CORPORATION — Makers of Electrical Insulating Tubing and Sleeving

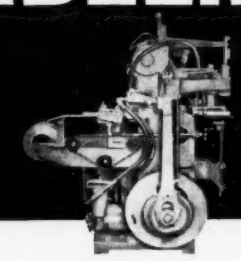
Approved for application under MIL-I-21557

510 W. Court St., Rome, N. Y.

For more details circle NED-891 K1 on enclosed inquiry slip

MUST YOU MEET

SHORT-RUN LABELING?



If short runs and a wide variety of labels are part of your labeling problem, this machine can help you. Industries such as drug, hardware, electronic, automotive and textile have found that *roll labeling without glue* offers matchless control, efficiency and convenience.

New Jersey Machine Corp. offers the economies of roll labels, the ability to imprint valuable data within a master label, and a quick-start no-glue labeling operation. Write today for full information.

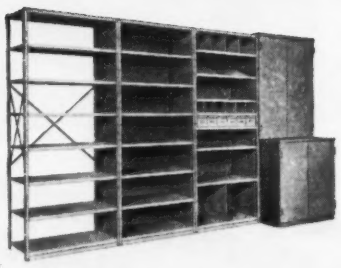
Labeling, Cartoning, Paper Box Machinery
NEW JERSEY MACHINE CORPORATION

Main Office and Plant: 16th Street and Willow Avenue, Hoboken, New Jersey • Oldfield 9-0483
Factory Sales & Service Branches: 325 W. Huron St., Chicago 10, Ill. 2500 W. 6th St., Los Angeles 57, Cal.

For more details circle NED-892 K1 on enclosed inquiry slip

Big Buy ! . . Borroughs

STEEL SHELVING



Best shelving on the market! — that's what you'll say when you get all the facts about Borroughs Steel Shelving. For speedy, simple assembly without special tools . . . for rapid shelf adjustability without nuts or bolts . . . for long, trouble-free service . . . you can count on Borroughs for the best. Don't put a single dollar into any shelving until you get the full story about the Borroughs line.

Send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-893 K1 on enclosed inquiry slip

AIR-HANDLE
YOUR MATERIAL WITH
PRESSUREGRIP

Get the facts on Whiting Pressuregrip. Write for Bulletin V-100R.

Whiting Corporation, 15660 Lathrop Ave., Harvey, Ill.

WHITING

For more details circle **NED-894 K1** on enclosed inquiry slip

NEW KIDDE TRI-CLASS-ABC UNITS APPROVED FOR A, B, C, FIRES

U.L.-approved for use on all three classes of ordinary combustibles, flammable liquids, and electrical fires, new 10 and 20-pound Kidde dry chemical portables simplify the job of fire-fighting, eliminate the possibility of error in matching the extinguisher to the fire hazard. Simple recharging means that once used, units are quickly put back in service. In addition to full U.L. approval, both units are approved by Factory Mutual Laboratories. For more information, write to Kidde today!

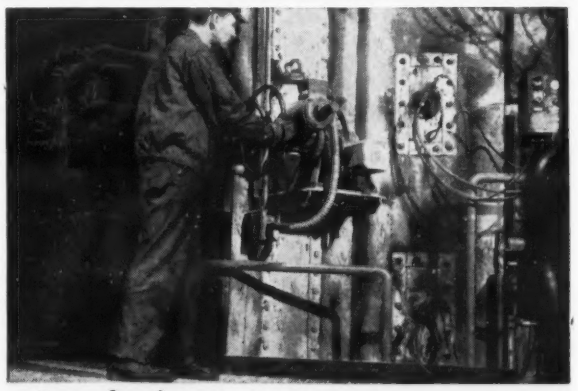
Kidde

Industrial and Marine Division

Walter Kidde & Company, Inc., 1024 Main St., Belleville 9, N. J.

Walter Kidde & Company of Canada Ltd., Montreal – Toronto – Vancouver

For more details circle **NED-895 K1** on enclosed inquiry slip



Sure footing . . .

A.W. ALGRIP abrasive flooring

Heavy oil occasionally spills on this platform at the Schuylkill Station of the Philadelphia Electric Company, but A. W. ALGRIP helps prevent accidents by providing assured footing.

A. W. ALGRIP is produced by Alan Wood Steel Company by a patented process in which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

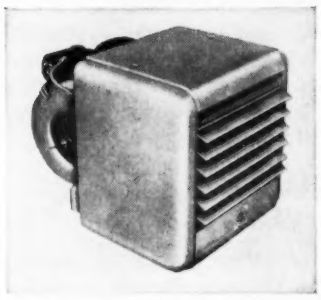
For more details circle **NED-896 K1** on enclosed inquiry slip

PROTECTIVE ENVELOPE of clear, thin Tenite polyester

Made of thin, lightweight Tenite polyester, Vular sheet protector is perfectly clear and free of any color tint. The envelope is cut and shatter resistant and will not dry or embrittle with age. Protector is used for covering and enhancing the appearance of sales literature, catalog sheets, and photographs; preserving documents and records; and protecting valuable artwork, drawings, and blueprints. Standard protector accepts 11 x 8½-in. sheets, is punched with three holes, and fitted with a black album paper insert. Other sizes are stocked. • **American Kleer-Vu Plastics, Inc.**, 76 Madison Ave., New York 16, N. Y.

For more details circle **NED-897 K1** on enclosed inquiry slip

GAS-FIRED UNIT HEATERS have quiet centrifugal blowers



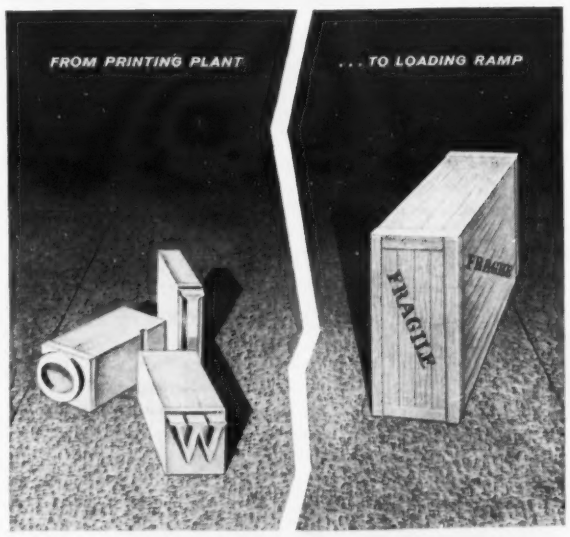
Quiet centrifugal blowers used in Series NB gas-fired unit heaters enables them to be used in areas where noise cannot be tolerated. Heaters are designed for use with natural, manufactured, mixed, and liquefied petroleum gases, including LP-gas-air mixtures. Eight basic sizes with heat capacities from 50,000 to 250,000 Btu are controlled by room thermostat. Blower is driven by a constant-speed motor through a variable-speed V-belt drive. Well suited for remote location with a run of duct to the heated space, units are equipped with a high limit switch, gas valve, constant burning pilot, pilot switch, and gas pressure regulator. • **American-Standard Industrial Div.**, 8111 Tireman Ave., Detroit 32, Mich.

For more details circle **NED-898 K1** on enclosed inquiry slip

Spring Washer Catalog

FREE George K. Garrett Co.—Arc, 3-Wave, and other types of spring washers are listed in 8-page Bulletin SW-2 to facilitate easy selection. In addition to spring steel, spring washers are available in stainless steel, K-Monel, spring bronze, and beryllium copper, in all finishes and platings. Company's embrittlement-free zinc plating process is also covered.

For more details circle **NED-899 K1** on enclosed inquiry slip



There's never a slip on A. W. ALGRIP
(the only ABRASIVE rolled steel floor plate)

Step up your plant safety with Algrip—the world's only abrasive rolled steel floor plate. It provides safer footing where splashing water, grease, oil, ink mist or other slippery substances might otherwise pose serious plant hazards.

Fabrication is simple. Write today for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

For more details circle **NED-900 K1** on enclosed inquiry slip

new
Warner Compact Electric Clutch

WARNER ELECTRIC

Model SF 500 with static torque rating of 50 lb-ft.

This new Warner electric clutch delivers the *highest torque for its size* of anything now on the market . . . 50 lb-ft. It offers maximum operating life with an absolute minimum of maintenance. There are just three main elements—stationary field, rotor, and armature. Collector rings and brushholders are eliminated. Take-up for wear is automatic. Torque is fully adjustable to match your application.

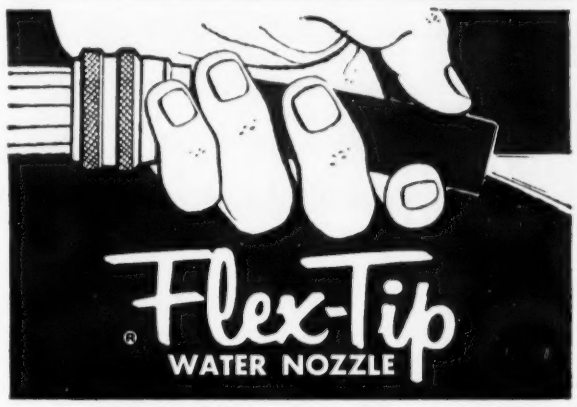
Improve *your* product with the SF 500! Install it in present applications or put new automatic drive control where it has never before been practical! Write today for full details.

WARNER ELECTRIC

Warner Electric Brake & Clutch Co., Beloit, Wisconsin

Stocked by Distributors in Principal Cities Throughout the World.

For more details circle **NED-901 K1** on enclosed inquiry slip



SAVES WATER . . . SAVES TIME

When you want water, flex the nozzle. When you don't, just toss hose aside. Water cuts off automatically. No water wasted, no puddles or mess. No running back and forth between faucet and nozzle. Made of grease-resistant Neoprene and machined brass. No handles, levers, springs or packing. Nothing to break, clog or get out of adjustment.

AVAILABLE FOR ¾" GARDEN HOSE THREAD OR ¼" I. P. T. (COXWELL UNITS.)

For catalog and price sheets, write

HECKETHORN MFG. & SUPPLY CO.
DYERSBURG, TENN.

"Makers of A-10 Air Gun"

For more details circle **NED-902 K1** on enclosed inquiry slip

A. W. ALGRIP abrasive flooring

Bits of food fall on the floor of this food processor's freezer, but A. W. ALGRIP eliminates slipping and sliding . . . helps prevent accidents.

A. W. ALGRIP is produced by Alan Wood Steel Company under a patented process by which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

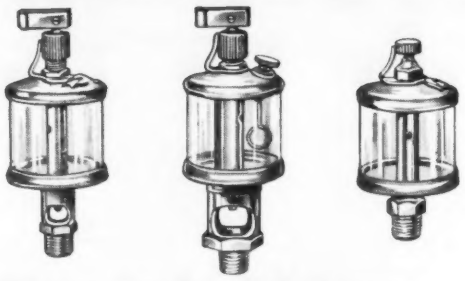
A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

For more details circle **NED-903 K1** on enclosed inquiry slip

Immediate Delivery!



Glass Body Oil Cups.

You can fill all your Oil Cup requirements from Swift's complete stocks. Swift Glass Body Oil Cups have polished brass finishes and tough, heat- and stain-resistant Pyrex glasses. Standard sizes are always available for immediate delivery.

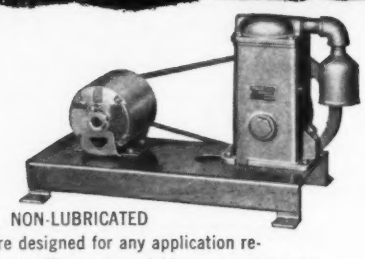
Sight Feed and Plain Glass Oil Cups. For gravity-feed oiling of bearings and other points where no back pressure exists. Spring-loaded slide opening on lid keeps dust and dirt from bowl.

Gas Engine Lubricators. For gravity-feed of oil against pressure in gas engines, blowers, vacuum pumps, low pressure air pumps.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

For more details circle **NED-904 K1** on enclosed inquiry slip

OIL-FREE AIR . . . with I-R NON-LUBRICATED COMPRESSORS



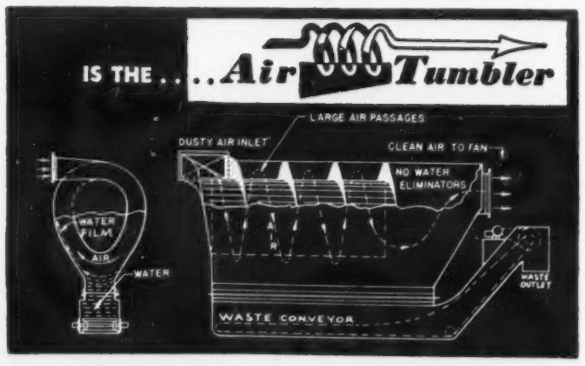
Ingersoll-Rand NON-LUBRICATED compressors are designed for any application requiring oil-free air. These dependable compressors are today performing in a wide variety of installations such as hospitals, laboratories, chemical, food, brewing and distilling industries and for instrument control.

These small I-R Non-Lubricated Compressors are available as a bare compressor, base plate mounted with motor, or complete on an ASME receiver. Larger I-R reciprocating compressors are available in non-lubricated design. Write today for covering literature or see your local I-R representative or distributor.

95A-3 **Ingersoll-Rand**
11 Broadway, New York 4, N. Y.

For more details circle **NED-905 K1** on enclosed inquiry slip

The MASTER of DUST in INDUSTRY



The Wet Collector that becomes Standard Equipment wherever tried because it does a better job at less cost.

More than one million CFM in ONE plant

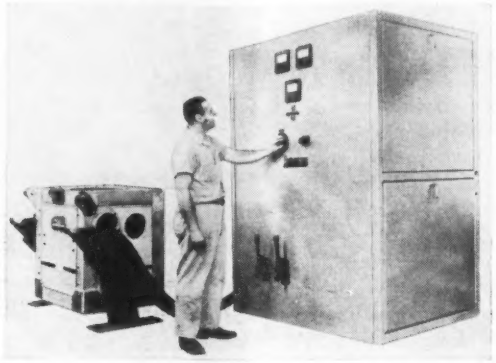
Write for Bulletin No. 601. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

For more details circle **NED-906 K1** on enclosed inquiry slip

INDUCTION POWER SOURCE converts 60-cycles to 180 cycles for melting, sintering operations

Static frequency multiplying circuit of the Inducto Tri-Line induction power source converts a balanced three-phase, 60-cycle power input to 180-cycle output.



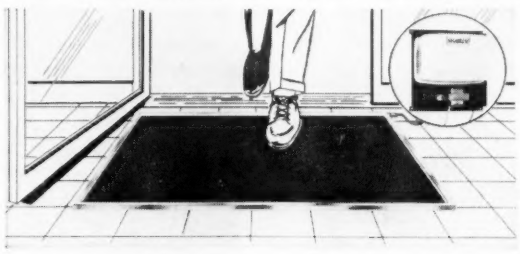
In large melting, sintering, hot pressing, graphitizing, and billet heating applications the 180-cycle power affords lower installation and maintenance costs and improved performance. Good stirring forces are developed.

Transformers cannot be damaged by overloads, and output is varied easily to meet changing load requirements. Moderate output (up to 750 v) eliminates arcing and insulation problems when used for vacuum melting or heating. Output capacities available are from 125 to above 700 kw. Furnaces, heating coils, and accessories offered meet most requirements. • **Inductotherm Corp.**, 10 Indel Ave., Rancocas, N. J.

For more details circle **NED-907 K1** on enclosed inquiry slip

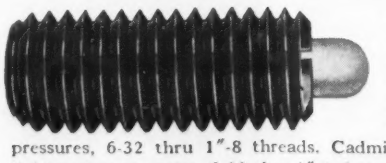
SIGNALLING DOORMAT 36 x 27-in. reversible type

Placed in entrance ways of offices, shops, or registration booth, the Signal-U Doormat signals by bell or chime when anyone steps on it. The 3/8-in. thick

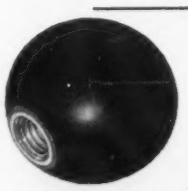


mat measures 36 x 27 in. and is reversible. Both sides are constructed of heavy corrugated rubber secured with extruded aluminum edging. Fifty feet of hook-up wire is provided, and installation requires mounting the chime and plugging it into a wall socket, then plugging in connector at the mat. Doormat can be ordered separately and connected to other electronic devices, doubling as a burglar alarm, if desired. Price is $34 with chime and hook-up wire. • **Signal-U Mfg. Co.**, 250 Railroad St., Canfield, Ohio.

For more details circle **NED-908 K1** on enclosed inquiry slip



SPRING PLUNGERS are now available in four types and thirty-four sizes. Black Pentrate Nose with standard spring pressures, 6-32 thru 1"-8 threads. Cadmium Plate Nose with light spring pressures, 6-32 thru 1"-8 threads. Black Nylon Nose with standard spring pressures, 8-32 thru 5/8"-11 threads. White Nylon Nose with light spring pressures, 8-32 thru 5/8"-11 threads. Northwestern Tools, Inc., 127 Hollier Ave., Dayton 3, Ohio.



PLASTIC BALL KNOBS with brass inserts are now available in four diameters and twelve thread sizes. 3/4" diameter with 10-32 threads. 1" diameter with 1/4-20, 1/4-28, 5/16-18 or 5/16-24 threads. 1 3/8" diameter with 3/8-16, 3/8-24, 1/2-13 or 1/2-20 threads. 1 7/8" diameter with 1/2-13, 1/2-20 or 5/8-18 threads. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

SWING "C" WASHERS complete with shoulder screws, are now available in four sizes for 3/8", 1/2", 5/8" or 3/4" bolt sizes.

Write or call today for your free new 16-page catalog. Catalog includes tracing templates of jig and fixture components. Northwestern Tools, Inc. 127 Hollier Ave., Dayton 3, Ohio.

Advt.

For more details circle **NED-909 K1** on enclosed inquiry slip

NOBODY STEALS MY DRIV-LOK CATALOG!

It's the most complete reference I have on grooved pins. Not only tells me about the extensive line of diameters, lengths, groove arrangements, steels, aluminums, brass, bronze and other pin metals available from Driv-Lok, but special pins as well.

It's got factual information on drilling procedures, tolerances, weights per thousand, minimum shear values for various metals, recommended pin diameters for various torque values, and a host of typical applications.

Those applications are great. Give me all kinds of ideas. Mostly how to get the best fastening job for the least amount of time and money.

Don't get hung up . . . from stealing or a tough fastening problem. Send for your Driv-Lok catalog today!

DRIV-LOK SALES CORPORATION
717 Park Avenue, Sycamore 1, Illinois

For more details circle **NED-910 K1** on enclosed inquiry slip

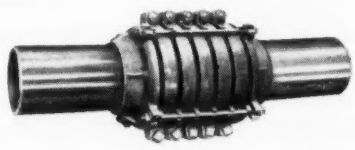
FLEXONICS EXPANSION JOINTS

Dependable Motion Control for All Piping

FREE FLEXING—Available in stainless steel or copper in sizes from 3" to 48" I.D. for pressures up to 50 psi. Traverse up to 6 1/4". Choice of flanges or welding ends.

CONTROLLED FLEXING—

Available in stainless steel or copper in sizes from 3" to 24" for pressures up to 300 psi. Traverse up to 7 1/2". Choice of flanges or welding ends.



COMPENSATORS—Available in sizes 3/4" through 3". Will take up to 1 3/4" compression stroke at working pressures up to 150 psi.

Write for Catalog

Flexonics
DIVISION OF CALUMET & HECLA, INC.
362 E. Devon Ave., Bartlett, Illinois

Expansion Joints | Flexible Metal and Synthetic Hose | Metallic Bellows | Synthetic Hydraulic Hose | Aircraft Components

For more details circle **NED-911 K1** on enclosed inquiry slip

CESCO—*Right Before Your Eyes!*

Stylist Metal Frame Glasses have features everyone will like!

• Men and women employees will like the Stylist's good looks and comfortable fit. Safety Directors will like the extra protection which the sturdy lens-retaining eye-wires afford. Repairmen will like how simple it is to replace lenses, temples and nose pads. And management and purchasing people will like how they save money through longer service and lower replacement part costs.

POLYFIT BRIDGE • The universal-fitting comfort bridge

POPULAR EYE SIZES • F7 shape—46 and 48 eye sizes

SUPER SAFETY LENSES • 6.00 C clear or antiglare—glass or plastic

STURDY TEMPLES • Cable (available fully insulated) or skull types with *welded 5-barrel hinges*

SUR-LOK PINS • No lost screws. Temples held securely to frames

AVAILABLE WITH SIDESHIELDS Flesh or green perforated plastic. Flat fold. Wire screen in black or stainless steel

FRAMES AND TEMPLES • Nickel silver plated in corrosion-resistant rhodium

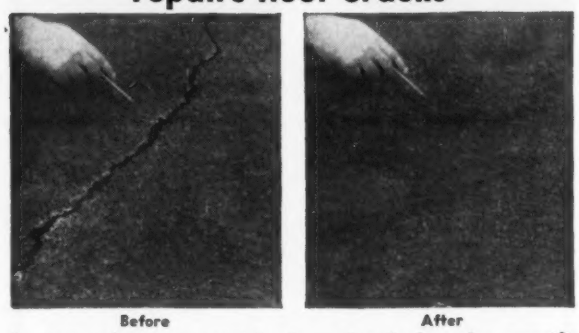
SEE your CESCO distributor or write us for prices and complete information

CHICAGO EYE SHIELD COMPANY
2715 West Roscoe Street, Chicago 18, Illinois

CESCO FOR SAFETY

For more details circle **NED-912 K1** on enclosed inquiry slip

NEW PLASTIC MATERIALS repairs floor cracks



Before After

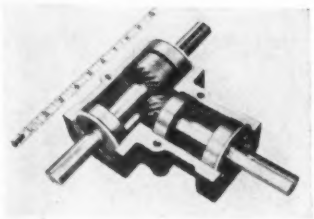
A new plastic material, formulated for the specific purpose of repairing floor cracks and preventing surface deterioration, is announced by The Monroe Company, Inc., Cleveland. Known as "Jiffy Floor", it is a fine granular, ready-to-use plastic product that can be applied without interfering with production or traffic. It readily fills hairline cracks, shallow holes, spalled floors or expansion joints. Immediately after application, it will withstand heaviest loads.

Jiffy Floor contains no asphalt, cement, sand or gravel. It will not crack, crumble or curl . . . is not affected by temperature changes . . . can be applied indoors or out.

Jiffy Floor is waterproof, dustless, skid-proof and noiseless. Available in 5-10-30 and 55-gallon drums, ready for easy use. For further information write **The Monroe Company, Inc.,** 10702 Quebec Avenue, Cleveland 6, Ohio. *Advt.*

▲ For more details circle **NED-913 K1** on enclosed inquiry slip ▲

RIGHT ANGLE GEAR UNIT has 2:1 speed reduction



Spiral bevel gears and double sealed, double shielded ball bearings of the Model 805 right angle gear unit are enclosed in a Type 356 aluminum alloy housing. Shaft extensions are Type 316 stainless steel. Packaged unit with 2:1 speed reduction withstands severe operational use and affords design versatility. This unit is one of a line of 18 models ranging from 1/4 to 8 hp with 1:1 and 2:1 ratios. • **Harrington & Richardson, Inc.,** Crown Gear Div., 320 Park Ave., Worcester 10, Mass.

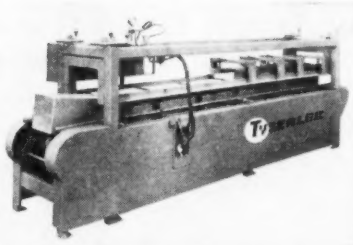
▲ For more details circle **NED-916 K1** on enclosed inquiry slip ▲

MINIATURE ROTARY MANIFOLD air flow rate is 5.9 cfm at 50 psi

Air or liquid can be supplied from a fixed center column to work stations on a revolving index table by Model MRM-6 miniature rotary manifold. The 1 3/16 x 11/16-in. unit provides up to six supply ports from each intake connection. Each port is tapped to 10-32 size for various Clippard hose or tube fittings. It is made of brass and silicon bronze with Buna-N seals and is air flow rated at 5.9 cfm at 50 psi. Working range is up to 250 psi. Intake has both a 10-32 port and a 1/8-in. NPT male thread. • **Clippard Instrument Laboratory, Inc.,** 7390 Colerain Rd., Cincinnati 39, Ohio.

▲ For more details circle **NED-917 K1** on enclosed inquiry slip ▲

CARTON CLOSER & SEALER automatically closes top and bottom



Equipped with a sealed glue system that eliminates cleaning and clogging, the Tysealer automatic corrugated cardboard carton closer and sealer is only 12 ft long, and performs top and/or bottom sealing. Models for top or bottom sealing only are available. Only two adjustments are required for size changeover. All models handle carton sizes from 12 x 8 x 4½ in. to 16 x 14 x 10 in. Standard production rate is 30 cases per minute or 10 to 40 cases with variable speed drive. Operation is on 220/440 v. • **Hansford Mfg. Corp.,** 3111 Winton Rd. S., Rochester 23, N. Y.

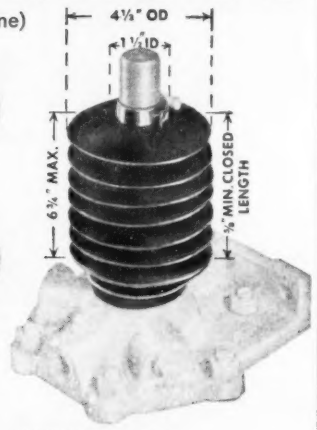
▲ For more details circle **NED-918 K1** on enclosed inquiry slip ▲

PROTECTED

GORTITE (new neoprene)

SLEEVES

BOOTS

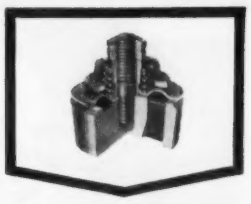


Ask for new bulletin AH-3 describing applications for hydraulic cylinders, jacks, rams, etc.

A&A MFG. COMPANY, Inc.
712 S. 12th Street, Milwaukee 4, Wis.
ALL SHAPES AND CONTOURS
BELLOWS—BOOTS—SLEEVES—WAY PROTECTORS

▲ For more details circle **NED-914 K1** on enclosed inquiry slip ▲

fast valve action



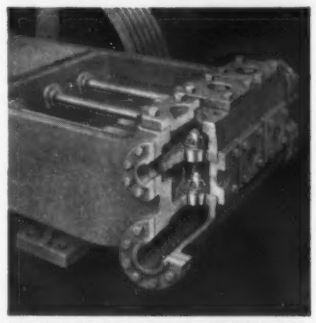
points the way to high-speed pump efficiency

DURABLA Valves are ideally suited to modern high-speed reciprocating pumps. One big reason: Valve action is very sharp, thanks to a light-weight, free-moving member.

Formed from thin, non-corrosive metal, the valve member is designed to make but "point contact" on the sleeve. This unique feature, together with the patented arched design, makes it the freest moving and most durable valve available.

Working parts are quick and easy to inspect (stud and seat removal are not necessary). New taper-lock stud can be removed and returned to position without danger of over-stressing which could cause subsequent breakage.

For full details, send for booklet NED 101. DM-40



DURABLA MANUFACTURING CO.
114 Liberty Street
New York 6, N. Y.

DURABLA®

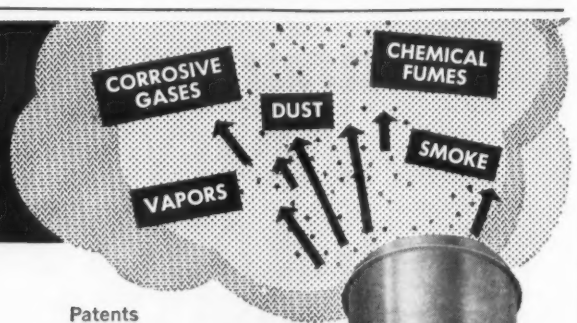
Manufacturers of DURABLA sheet packing, gaskets and check valves.

▲ For more details circle **NED-919 K1** on enclosed inquiry slip ▲

HIGHER COMBUSTION EFFICIENCY! LOWER MAINTENANCE COSTS!

NO MOTORS, FANS OR BEARINGS IN EXHAUST LINE

PERFECT DRAFT-CONTROL BY Quickdraft

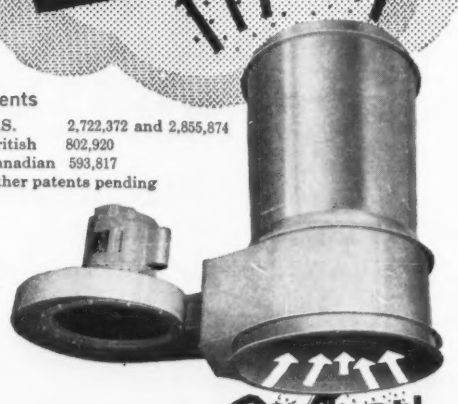


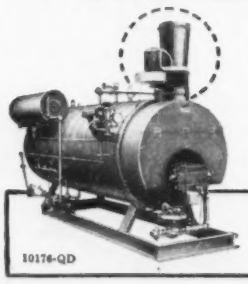
★ EXTREMELY HIGH NEGATIVE PRESSURES
★ ACID RESISTING FINISHES
★ HIGHLY EFFICIENT WITHOUT CHIMNEY

FOR INDUSTRY . . . Now you can boost the combustion efficiency of your boilers, regardless of the fuel you use. Quickdraft power-draft units provide instant controlled draft and completely remove all combustion, corrosive and noxious fumes at high temperature without passing them through the blower and motor. Maintenance costs are drastically reduced. Specify a Quickdraft unit to meet your particular requirements from a wide selection of various sizes.

FOR INSTITUTIONAL AND COMMERCIAL BUILDINGS . . . Quickdraft eliminates costly, tall and unsightly stacks. Vent incinerators, heating plants and water heaters at roof level . . . safely and efficiently.

Patents
U.S. 2,722,372 and 2,855,874
British 802,920
Canadian 593,817
Other patents pending





10176-QD

One of many actual installations with or without chimney.

FOR CORROSIVE SERVICE
All Quickdraft units are available in standard acid resisting vitreous enamel, 316 stainless steel, carpenter 20 rigid plastics (P.V.C), and with plastic or Fiberglas coatings.

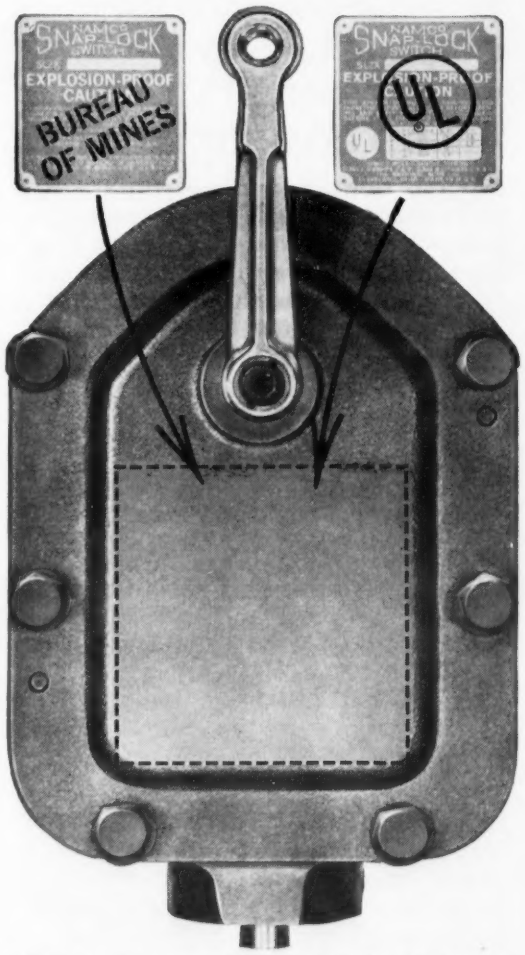
Write for QUICKDRAFT ENGINEERING DATA on your letterhead . . . today

Quickdraft CORPORATION
Box 1353-L, Sta. C, Canton S.W., Ohio

MANUFACTURERS OF ALL TYPES OF MATERIAL HANDLING UNITS WITH EXTREMELY HIGH VELOCITIES.

▲ For more details circle **NED-915 K1** on enclosed inquiry slip ▲

National Acme's SL2X limit switch doubly certified explosion proof



Specify National Acme's SL2X . . . and eliminate limit switching problems under explosive conditions. Tested and certified "explosion-proof" by both Underwriters' Laboratories and the Bureau of Mines, the SL2X is specifically designed for use in the mining, chemical, process industries . . . anywhere explosions cannot be tolerated. Latest of National Acme's dependable SL2 "Machine Life" Limit Switches, the SL2X also offers . . . a variety of cam arrangements for extreme operating flexibility . . . ample overtravel (67°) and by-pass (90°) . . . light operating pressure (12½ lbs. at 1½" radius). Get all the details on this new standard of limit switching dependability and safety. Call, write or wire.

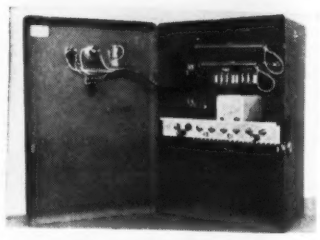
National Acme
THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

▲ For more details circle **NED-920 K1** on enclosed inquiry slip ▲

For more details circle NED-921 K1 on enclosed inquiry slip

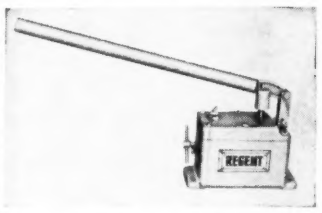
FIRE ALARM CONTROL
uses two 120-v ac current sources



Usable with an auxiliary trip panel for transmitting coded or non-coded alarm signals to a remote station receiving panel, the CAFP-1 control panel is primarily designed for on-premise fire alarm systems. It consists basically of a single supervised signal-initiating circuit, common control equipment, electrically supervised alarm bell line, and a trouble bell line. System uses one 120-v ac power source for system operating power and one 120-v ac power source for trouble power. Control panel will always give a trouble signal in the event of an "open" or a "ground," eliminating any possibility of a false alarm in operating circuits. • **Notifier Corp.**, 3700 N. 56th St., Lincoln 4, Nebr.

For more details circle NED-923 K1 on enclosed inquiry slip

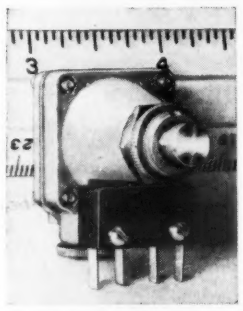
HYDRAULIC PUMPS
in 3000-10,000 psi pressure ratings



Hydraulic pumps for varied equipment applications are available as hand pumps or as portable pumps with reservoirs. Maximum operating pressures range from 3000 to 10,000 psi for two or four-piston, single or double-acting types. Reservoir oil capacities range from 80 to 480 cu in. Features include an automatic safety valve, check ball valves in quickly replaceable cartridges, ball-type release valves, O-ring packings, and Teflon back-up rings. • **Regent Jack Mfg. Co.**, 11905 Regentview Ave., Downey, Calif.

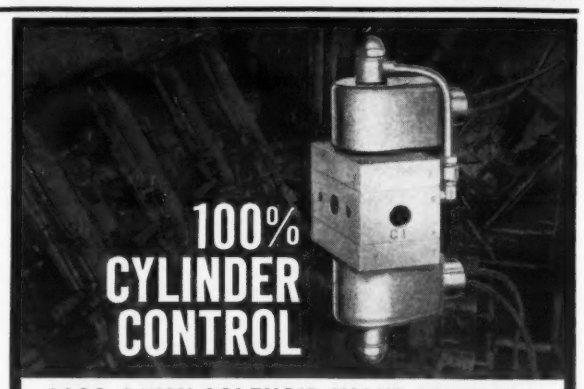
For more details circle NED-924 K1 on enclosed inquiry slip

MINIATURE PNEUMATIC TIMER
built for 5 million actuations



Model 90 miniature pneumatic timer, measuring 1½ in. square and weighing less than 1 oz, is built for 5 million actuations. Unit has an easily-replaced 10-amp switch and time range adjustable from 0.2 to 15 sec. Universal bracket allows mounting unit in any position. Device can be used as a combination limit switch and a time delay "limit switch." It operates in a 32 to 120° F range and repeats to within ±10 per cent accuracy. • **Hagen Mfg. Co.**, 104 Walnut St., Baraboo, Wis.

For more details circle NED-925 K1 on enclosed inquiry slip



ASCO 4-WAY SOLENOID VALVE PREVENTS PISTON DRIFT The Bulletin 8347 valve assures positive control of the cylinder piston. When solenoids are de-energized, the valve moves to center and all orifices are blocked, locking the cylinder piston in position. Dead-tight valve seating permits precision inching of the piston and absolute control of stroke, with instantaneous stopping and no drift.

Specifications: 3-position, 4-way design; standard or explosion-proof enclosure; poppet-type seating; instantaneous operation; pressures to 250 psi for air, water, oil; ¼" or ⅜" pipe size; mounts in any position. Immediate delivery. PAT. NO. 2,984,257

Write for Bulletin 8347 for complete technical data.

ASCO Valves ASCO

Automatic Switch Co. 54B HANOVER RD., FLORHAM PARK, N. J. • FRONTIER 7-4600

For more details circle NED-927 K1 on enclosed inquiry slip

LERMER RIGID PLASTIC CONTAINERS

OFFER UNIQUE PACKAGING ADVANTAGES FOR INDUSTRIAL TOOLS AND COMPONENTS

For the utmost in ease of packaging, visibility, safety and protection, nothing compares with the desirable features of Lermer RIGID plastic containers for diamond tools, drills, gauges, ball bearings, jewels, etc.

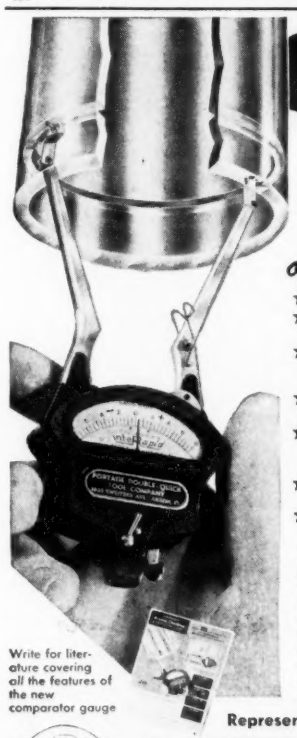
• Printed or decorated up to 4 colors on crystal clear, transparent or opaque colors • Largest line of RIGID plastic containers • 1/5 the weight of glass — greatly reducing ever-increasing shipping and handling costs • Lightweight and shatterproof — with rigid wall protection • Economical — with customer re-use value • Also made of new high density polyethylene — Poly-Opal* Are chemically inert, stain resistant and have lower permeability to moisture and gases than conventional polyethylene. Write for full-color catalog, samples and prices. *T.M.

Also a complete line of flexible acetate containers.

LERMER PLASTICS, INC.
514 South Avenue, Garwood, N. J.

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

For more details circle NED-922 K1 on enclosed inquiry slip



NEW PDQ

inteRapid
GROOVE CHECKING
Comparator Gauge

offers...

★ Precision, range and versatility
★ 3 and 2 point checking—3 point for production, 2 point for short runs
★ Quick setting adjustment knob sets scale reading from gage blocks, mikes or ring gauge.
★ Locking lever locks arms after setting is made
★ Retracting lever allows in and out movement of measuring arms while positioning instrument
★ Easily read large meter-type face is graduated in .0005"
★ Interchangeable tips offer versatility in application

The new P.D.Q. groove checking comparator gauge offers guaranteed Swiss accuracy and workmanship.

Sets come complete with both short and long groove tips, special "flat bottom" tips, button tips, centering arms, spare screws, special socket wrench and screw driver, all in one compact, sturdy case. Units measure internal grooves from 3/8" to 6"

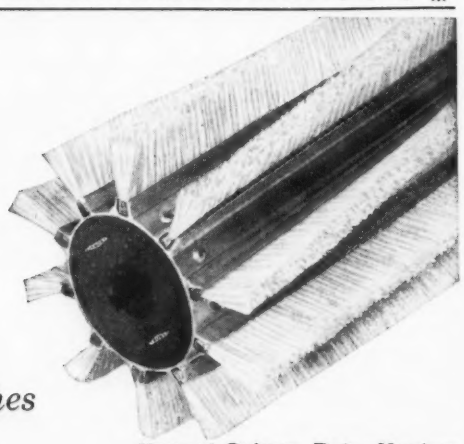
Write for literature covering all the features of the new comparator gauge

Representatives in principal cities

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-928 K1 on enclosed inquiry slip

HOW TO END CONVEYOR BELT CLEANING PROBLEMS



Unique OSBORN ROTA-MASTER® brushes do the job automatically . . . can cut your downtime and maintenance costs now

CARRYOVER on rubber and fabric conveyor belts can cause destructive wear—and add costly downtime hours spent in frequent cleaning. Osborn Rota-Master® Brushes automatically and efficiently prevent buildup of such materials as chemicals, food, tobacco, chips, core sand, coke and ore on belts, rolls, snubber pulleys and return idlers.

Easy to install and adaptable to any system—Rota-Master Brushes clean conveyor belts with a unique, flexible sweeping action that does a thorough job. Brushes are self-cleaning, simple to adjust for correct brushing pressures.

Write for details to help pinpoint exactly how you can cut costs and simplify your conveyor cleaning. *The Osborn Manufacturing Company, Dept. N-28, Cleveland 14, Ohio.*

Newest Osborn Rota-Master® Brush features: Newly developed KORFIL®P fill material is extra-rugged . . . cleans more thoroughly, wears longer. New lightweight mounting is easier to handle and install. Mounting is re-usable . . . replacement strips easily inserted. In 16", 18", 24" face widths. Assemble in multiples for any belt size.

Write For Rota-Master® Brush Booklet . . . includes complete application, specification and operational data for all types of conveyor belt cleaning requirements.

OSBORN

METAL FINISHING MACHINES . . . AND METHODS • INDUSTRIAL BRUSHES • FOUNDRY PRODUCTION MACHINERY

For more details circle NED-926 K1 on enclosed inquiry slip

SHORT RUN STAMPING VALUE!

Everything considered . . . accurate high quality stampings that meet your specs . . . prompt deliveries to fit your production schedules . . . and right prices to save you money . . . you get your biggest short run stamping *value* at FEDERAL! Three plants across the nation to serve you fast. Prompt personal attention to every order.

Send your prints today for quick airmail or phone quotations. Also ask for a *free* copy of "Money-saving tips for designing Short Run Stampings."

FEDERAL

Federal Tool & Mfg. Co. 3618 Alabama Avenue Minneapolis 16, Minn.
Federal Short Run Stamping Inc. 918 Lyell Avenue Rochester 6, New York
Federal Stamping Co. 7318 Atoll Avenue No. Hollywood, Calif.

For more details circle **NED-929 K1** on enclosed inquiry slip

SHOPMOBILE

PAYS FOR ITSELF IN 90 DAYS!

SAVES MANY HOURS OF MAINTENANCE TIME — SAVES TRIPS — SPEEDS WORK

TAKE THE WORKSHOP TO THE WORK

SHOPMOBILE is an all-steel welded workshop on wheels with roomy storage compartments that can be locked and workbench surfaces at working height.

Only $249.00
F.O.B. Factory, Cardington, Ohio
Ready to Operate
Finish Painted

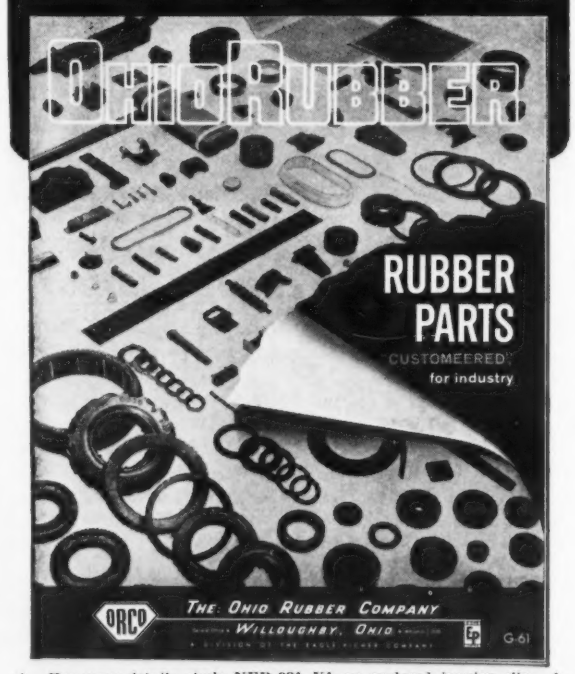
Free-rolling solid rubber tires

MECHANIZE YOUR MAINTENANCE DEPARTMENTS! WRITE TODAY FOR FULL INFORMATION.

STAHL METAL PRODUCTS, INC.
4750 W. 160th St. • Cleveland 35, Ohio
TELEPHONE: WInton 1-2377

For more details circle **NED-930 K1** on enclosed inquiry slip

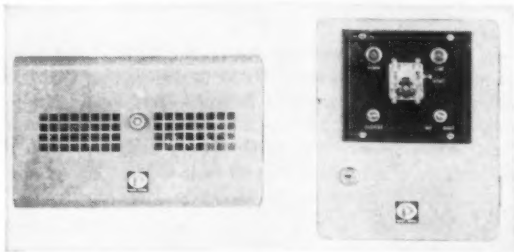
Free! New Rubber Data for Better Parts Design



For more details circle **NED-931 K1** on enclosed inquiry slip

ELECTRONIC SECURITY BARRIER detects approach of intruders

Perimeter security of storage depots, industrial property, and other large building areas is provided by the Radi-Matic electronic barrier. Operating on low



frequency, device transmits an electronic wave which detects any intruder in the antenna array. Warning is instantly reported to monitor located in guard office, police station, or other detection center. Antenna is zoned to pinpoint the location of intrusion. Barrier is easily installed alone, on an existing fence, or adapts to rows of multipane windows. It operates on 115-v ac and is unaffected by weather, line voltage fluctuations, or nearby electrical equipment. Built-in battery takes over in case of power failure. • **Powers Regulator Co.**, Dept. ND-5, 3400 Oakton St., Skokie, Ill.

For more details circle **NED-932 K1** on enclosed inquiry slip

BOILER CHEMICALS five heating system products offered with consulting service

Corrective and preventive chemicals for use in small boilers are available for use in various types of heating systems, together with consultation service on boiler problems. Hydrochloric acid liquid and sulfamic acid solid scale removers for use in steam generators afford handling safety, nonvolatility, and minimum attack on metal surfaces.

A two-way boiler treatment reduces scale formation and inhibits corrosion in boilers, whereas a three-way preventive formulation for condensate return systems, inhibits scale formation, minimizes boiler corrosion, and protects piping from condensate corrosion. Circulating water treatment protects all metal surfaces in the system, is effective in water up to 216° F, and is compatible with antifreeze solutions. Fifth product offered is a fuel oil additive with a combustion catalyst combined with solvents and detergents that free oil tanks and lines from gums and sludges. • **Virginia Chemicals & Smelting Co.**, West Norfolk, Va.

For more details circle **NED-933 K1** on enclosed inquiry slip

KODAK ANNOUNCES

Kodak

3 important new Kodagraph Films

Superb, high-contrast emulsions on new ESTAR BASE assure you of crisp, sharp, long-lasting, dimensionally stable reproductions of your drawings, maps, other documents. These three new ESTAR BASE films are also highly translucent, have an excellent matte surface on both sides . . . won't turn yellow or become brittle, and are moisture resistant. Available in cut sheets, and in rolls up to 52" wide.

1. **Kodagraph Autopositive Film, ESTAR BASE.** Ideal for general reproduction work—gives you same-size positive intermediates *directly* without negative step.
2. **Kodagraph Contact Film, ESTAR BASE.** Bound to be a darkroom favorite in making same-size reproductions of old or weak line originals from film or low-cost paper negatives.
3. **Kodagraph Projection Film, ESTAR BASE.** Gives you sharp, clean results when enlarging microfilm negatives, or making reductions from film negatives.

Call local Kodagraph dealer for free folder, or write to Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

NEW! Kodagraph

REPRODUCTION FILMS

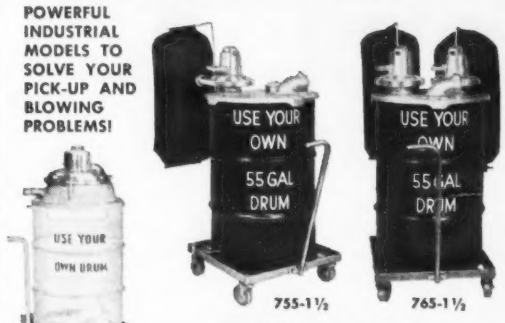
For more details circle **NED-934 K1** on enclosed inquiry slip

USE YOUR OWN 55 GALLON DRUMS

HILD

TRANSFERABLE HEAD VACUUM CLEANERS

POWERFUL INDUSTRIAL MODELS TO SOLVE YOUR PICK-UP AND BLOWING PROBLEMS!



Representatives in Every Major City

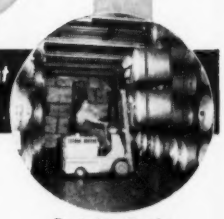
Write for Free Literature
HILD FLOOR MACHINE CO., INC.
1217 W. Washington Blvd., Chicago 7

HILD VACUUM CLEANERS, SCRUBBERS AND POLISHERS HAVE SERVED INDUSTRY FOR 35 YEARS

For more details circle **NED-935 K1** on enclosed inquiry slip

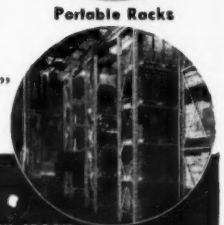
101 PALTIER WAYS TO STORE MORE IN LESS SPACE

PALTIER Racks—the best quality for the least cost!



Portable Racks

PALTIER manufactures the only rack system with all 12 of the most necessary quality engineered features and "Built Like a Skyscraper."



Pallet Racks

FREE...
The STORAGE RACK STORY. Write for your copy.

The PALTIER CORPORATION
1705 Kentucky Street • Michigan City, Indiana
Paltiersmen in All Principal Cities

For more details circle **NED-936 K1** on enclosed inquiry slip

These Can Save You **50% in Time!**

Revolutionary **BRIGHTBOY RUBBER CUSHIONED ABRASIVES**

Simultaneously
BURR • CLEAN • FINISH • POLISH

Work: Metals • Wood • Glass • Fiberglass • Laminated Materials • Some Plastics

The exceptional new achievement in wider uses for abrasives
REPLACES OLDER, COSTLIER METHODS

RUBBER & ABRASIVE COMBINE to produce a unique, time-saving single-operation action so exceptional that it must be seen to be believed. This action frequently serves as the final polish.
JOB-MATCHED, READILY AVAILABLE STOCK TEXTURES in wheels, sticks, rods, blocks and points, for your machine and manual production. Wide range of Silicon Carbide and Aluminum Oxide abrasive grains impregnated in rubber binders, soft to tough.
WRITE NOW FOR TIME-AND-MONEY-SAVING DETAILS on extensive uses. Brightboy's Catalog-Manual details: • Methods and Applications • Machine Speeds • Job-Matched Stock Numbers • Complete Range of Wheel Sizes

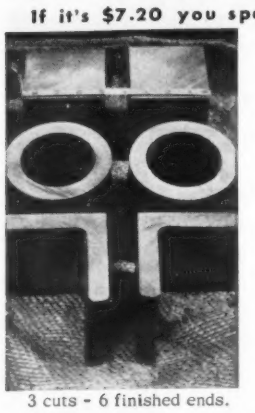
BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 N. 13th Street Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

For more details circle **NED-937 K1** on enclosed inquiry slip

WHAT'S YOUR SHOP COST PER HOUR FOR WAGES AND OVERHEAD?

If it's $6.00 you spend 10 cents per minute.
If it's $7.20 you spend 12 cents per minute.



3 cuts - 6 finished ends.

Cuts like these are made in SECONDS!

$6.00 per hour = 1/6 cents per second.

$7.20 per hour = 1/5 cents per second.

WHEN YOU CAN CUT AND FINISH LIKE THIS (Total time 58 seconds) THAT'S FAST! WHY DON'T YOU INVESTIGATE TO SEE WHAT YOU ARE MISSING.

Write and ask about "Cut-Machining."

WALLACE SUPPLIES MFG. COMPANY
3512 N. Ravenswood Ave., Chicago 13, Illinois

Or **Check Item** 940 on card.

▲ For more details circle NED-940 K1 on enclosed inquiry slip ▲

new ideas

...to help you reduce rising warehouse costs

What can you do to combat rising storage costs? Must you build or lease additional facilities to gain needed warehouse space? How can you make existing storage space more productive?

You'll find the answers to these—and other warehousing and handling problems—in this newest RAYMOND Catalog. Profusely illustrated, this free 16-page reference is packed with ideas that could save your company thousands of dollars in the next 12 months. Write for it today!

RAYMOND *Originator of Narrow Aisle Trucks*

The RAYMOND CORPORATION
4158 Madison St., Greene, N.Y.

Please send *free* catalog on RAYMOND Narrow Aisle Handling Equipment.

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-941 K1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letter-head request is indicated, you should write to the company.

Buffing & Polishing Compounds

FREE Hanson-Van Winkle-Munning Co.—A full line of both liquid and bar compounds for automatic and manual buffing is described in 20-page Bulletin Co-105. Covered are types for all metals, as well as for finishing plastic and rubber products.

▲ For more details circle NED-942 K1 on enclosed inquiry slip ▲

Miniature Precision Gears

FREE Northfield Precision Instrument Corp.—Specifications on a line of miniature precision gears and gear blanks comprise illustrated catalog. Major diameters range to 1½ in., with bores from 0.090 to 0.250 in. made of stainless steel or aluminum.

▲ For more details circle NED-943 K1 on enclosed inquiry slip ▲

Protection Guide for Dangerous Gases

FREE Acme Protection Equipment Co.—"Protection Guide" lists 504 toxic gases and recommends the proper gas mask container to use in safeguarding against each gas or combination of gases.

▲ For more details circle NED-944 K1 on enclosed inquiry slip ▲

Molded Teflon Products

FREE Allegheny Plastics, Inc. — Teflon products and processing operations shown in 8-page Bulletin R3017 will acquaint the reader with production capabilities of this company which can meet any Teflon fabrication need. Properties of molded Teflon are listed.

▲ For more details circle NED-945 K1 on enclosed inquiry slip ▲

Die & Tool Facilities

FREE Hercules Machine Tool & Die Co.—Automotive drawings shown in 6-page folder point up the wide range of parts made with dies, tools, and fixtures by this company. Pictures portray designing, engineering, body die, E.D.M., precision tooling, and try-out facilities.

▲ For more details circle NED-946 K1 on enclosed inquiry slip ▲

Closed Circuit TV Systems

FREE Cohu Electronics, Inc., Kin Tel Div.—General applications of closed-circuit television systems are presented in 8-page Catalog 6-205. Cameras are available to withstand virtually any environment.

▲ For more details circle NED-947 K1 on enclosed inquiry slip ▲

NEW! Tennant develops first walk-behind Electric Sweeper!

- No noise, no fumes. Assures safe, ULTRA-CLEAN sweeping
- Propels itself at 1.9 mph. Sweeps 34" path (max.)
- Sweeps up to 2000 sq. ft. in 5 minutes or less
- Rotary 17" side brush sweeps flush with walls
- Full-floating 26" main brush sweeps dirt into 2 cu. ft. removable hopper
- High volume vacuum sucks fine dust into 2200 sq. in. filter area
- Easy-to-use finger-tip controls. Stops automatically when handle is released

First of its kind, the new TENNANT Model 40-E *Electric* Sweeper is in a class by itself for ultra-clean sweeping and quiet operation.

Just 33" wide, this new self-propelled, dual-battery machine is especially made for *swift, safe* and *silent* vacuumized sweeping of critical congested areas. No noise, no fumes, no odors . . . when you sweep *electrically!*

Sweeps over 38,000 sq. ft. on a single battery charge under normal conditions.

WRITE TODAY *for colorful, illustrated bulletin!*

TENNANT *Industry's Most Widely Used* **POWER SWEEPERS**

G. H. Tennant Company • 715L N. Lilac Drive • Minneapolis 22, Minnesota

▲ For more details circle NED-948 K1 on enclosed inquiry slip ▲

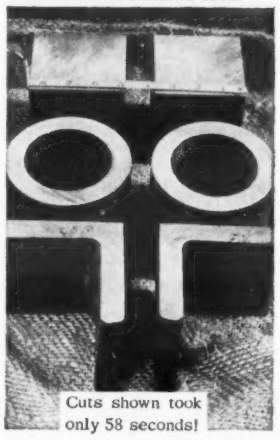
ARE YOU

WORKING OVERTIME TO KEEP YOUR PRODUCTION LINE FULL?

ARE YOU running more than one HACK OR BAND SAW?

Then you cannot afford to remain in the dark.

3 cuts - 6 finished ends.



Cuts shown took only 58 seconds!

with WALLACE "CUT-MACHINING."

YOU CAN

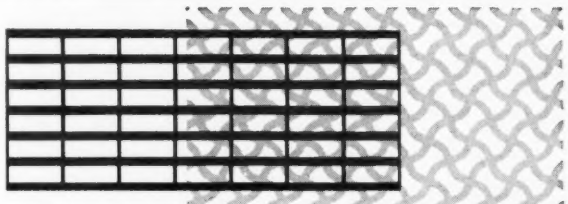
CHANGE MINUTES into SECONDS!

Write! Learn how it's done.

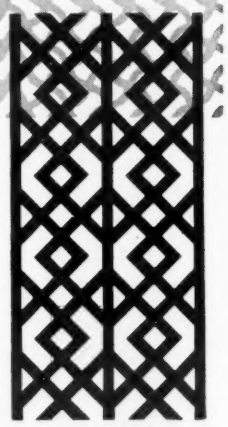
WALLACE SUPPLIES MFG. CO.
3512 N. Ravenswood Ave.
Chicago 13, Illinois

Or **Check Item** 949 on card.

▲ For more details circle NED-949 K1 on enclosed inquiry slip ▲



new decorative patterns in **H&K PERFORATED MATERIALS**



Just three of H & K's new patterns are illustrated here. Many more contemporary and traditional designs are available in steel sheets for immediate shipment from stock. There is also a vast selection of patterns and open areas which can be custom fabricated from existing dies . . . in most materials.

FIND NEAREST H&K AGENT IN THE 'Yellow Pages' Listed Under "Perforated Metals"

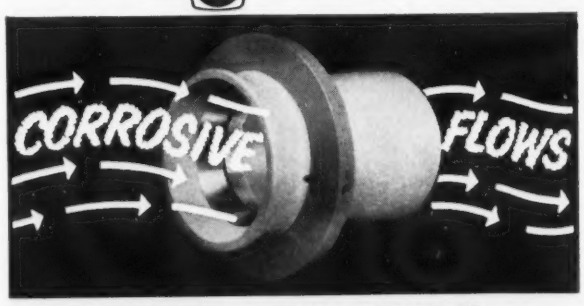
Write for Catalog 75 and/or Stock List of perforated steel sheets

THE **Harrington & King** PERFORATING CO. INC.

Chicago Office and Warehouse • *New York Office and Warehouse*
5658 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York

▲ For more details circle NED-950 K1 on enclosed inquiry slip ▲

B-I-F POSITIVE CONTROL OF MATERIALS FLOW



METER ACCURATELY AT LESS COST . . . WITH MINIMUM PRESSURE LOSS!

B-I-F plastic insert Dall Flow Tube meters process chemicals, salt water, air, gases, trade wastes, and water.

- Insert design permits easy installation within pipeline at any flanged joint . . . no special equipment or supports required.
- Completely corrosion-resistant construction beats corrosive liquid metering problem.
- Request free Facts on this low cost, lightweight, versatile flow meter. Write **B-I-F Industries, 425 Harris Ave., Providence 1, Rhode Island.**

B-I-F *Industries*
A DIVISION OF THE NEW YORK AIR BRAKE COMPANY

METERS • FEEDERS • CONTROLS / CONTINUOUS PROCESS ENGINEERING

▲ For more details circle NED-951 K1 on enclosed inquiry slip ▲

now available!

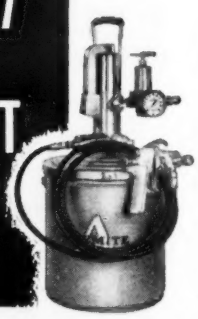
new pocket guide and catalog for better welding results

Nothing like it! Pocket size. Complete data on selection of rods and electrodes for welding stainless, low alloy, non-ferrous and light metals. Gives facts on applications, currents, preheating, annealing, AWS/ASTM classifications. Special sections on How to Get Better Stainless Welds, and Effect of Alloying Elements on Weld Metal. Comprehensive list of valuable technical data available. FOR FREE COPY write ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | *Filler Metal Specialists*

▲ For more details circle **NED-952 K1** on enclosed inquiry slip ▲

NEW ALEMITE "707"
5-GALLON PORTABLE
HYDRASTAT PAINT PUMP only $195.00*



New Alemite "707" Hydrastat airless paint pump with a low initial investment multiplies savings through use. Eliminates overspray and bounce-back —40% more coverage—less paint consumed—uses less than 7 c.f.m. of air. Weighs only 17¾ lbs.

*Complete Alemite Hydrastat airless outfit – pump, regulator assembly, filter, nylon hose with flexible static wire, gun with TC tip for less than $350.00.

Write for new, free illustrated catalog for complete details.

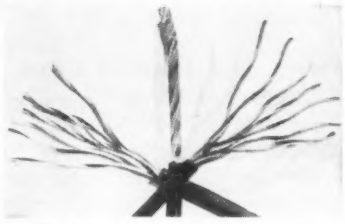
Symbol of SW Excellence — ALEMITE DIVISION STEWART-WARNER CORPORATION

Dept. BH-91
1850 Diversey Parkway
Chicago 14, Illinois

▲ For more details circle **NED-953 K1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

COLOR-STRIPED WIRE
single and multiconductor types



Multicolor markings that will not rub off are available on the silicone rubber insulation of this single and multiconductor hook-up wire and cable. A myriad of color combinations is available. The G-E insulation permits the use of small wires in multiconductor cables and results in light weight and flexibility. Color-striped silicone rubber wire is available in AWG Sizes 24 to 10. • **Boston Insulated Wire & Cable Co.**, 65 Bay St., Boston 25, Mass.

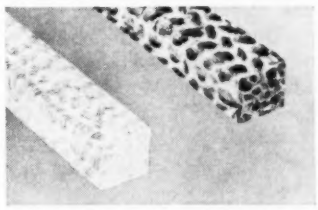
▲ For more details circle **NED-955 K1** on enclosed inquiry slip ▲

CONDUCTIVE ADHESIVE
is silver-filled epoxy paste

Offered in paste form, No. 2015 silver-filled epoxy adhesive is electrically conductive and bonds to metal, glass, ceramic, and most plastics. Typical applications are lead terminations, printed circuits, and shielding on bases. Adhesive performs especially well at locations which cannot be subjected to high heat, or where hot soldering is impractical. • **Hiller Aircraft Corp.**, Adhesive Engineering Div., 1411 Industrial Rd., San Carlos, Calif.

▲ For more details circle **NED-956 K1** on enclosed inquiry slip ▲

TEFLON FILAMENT PACKING
carbon free type resists 550° F



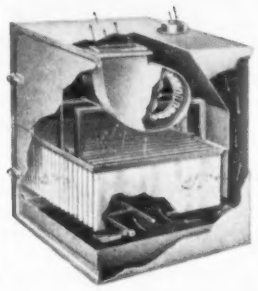
Pure white Teflon filament packing is carbon free and replaces earlier gray-brown Teflon packing with significant improvement in performance. The Palmetto CF packing is less prone to overheating during run-in and simplifies break-in period after installation. It is inert to almost every known element, resists heat to 550° F, and has an extremely low coefficient of friction. Purity of the Teflon braid eliminates chance of impurities responding unfavorably to heat. Suitable for original equipment, packing can replace more expensive mechanical face-type seals in many applications. • **Greene, Tweed & Co.**, North Wales, Pa.

▲ For more details circle **NED-957 K1** on enclosed inquiry slip ▲

TORIT
DUST COLLECTORS

keep plants clean lessen employee grievances save valuable dusts

Torit Dust Collectors keep plants clean . . . an important factor in protecting employee health and morale—and in lowering absenteeism and employee grievances. Economical, too, these units are portable. They cost a fraction of central built-ins and are not limited to certain areas. They save heat by recirculating clean, filtered air. And, as in tungsten carbide manufacturing or diamond grinding operations, they pay for themselves in days with the valuable dusts they recover.



Torit Cabinet Cloth-Filter Model. High efficiency collection of all types of dust. Particles are trapped on fine-woven cloth filters—99%+ efficiency (by weight). Clean filtered air is drawn past the motor and blower to keep it cool.

Self contained, portable steel cabinets. Removable doors allow ready access to filters, motors, and blowers. Filters are chemically treated for spark resistance and sealed against leakage. These compact units give maximum filter area in smallest possible space. Capacities range up to 2100 cubic feet per minute. Larger units are built on special order. Prices start at $230.

**For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 229*

TORIT MANUFACTURING CO.
1133 Rankin Street • St. Paul 16, Minnesota

▲ For more details circle **NED-958 K1** on enclosed inquiry slip ▲

AUTOMATIC PRESSURE or VACUUM CONTROL J6

UE TYPE J6 PRESSURE & VACUUM CONTROL

UNITED ELECTRIC TYPE J6 unit is designed to automatically control either pressure or vacuum . . . has a fixed, uniform on-off differential as specified between limits of 3" WC to 2 PSI . . . and a maximum controlling pressure of 180 PSI. It is a sensitive, weatherproof, precision built control with good repeatability. Recommended for all pressure or vacuum applications which require close on-off differential control.

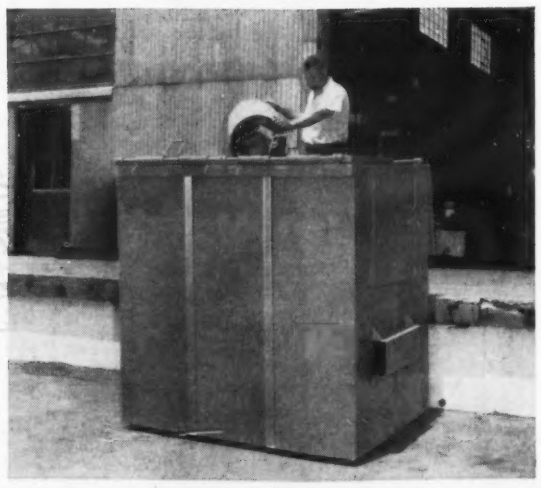
Switch Differential	Fixed as specified between limits of 3" WC to 2 PSI.
Switch Ratings	15 or 20 amps at 115 or 230 volts AC, also DC switches upon specification.
Switch Types	N.O., N.C., or Double Throw, no neutral position.
Size	4¾" x 4 27/32" x 2 5/16".
Weight	Approx. 1 lb. 8 oz.
Electrical Connection	½" NPT conduit opening in enclosure, screw type terminals on switch is standard.
Enclosure	Die-cast aluminum case, black wrinkle finish standard.
Mounting	Surface mounted—by 2 mounting ears.
Bellows	Seamless brass—spring loaded.
Pressure Connection	¼" NPT female connection.

UNITED ELECTRIC *manufactures a complete line of temperature, pressure and vacuum controls. Standard units can be modified or custom-built units made to your specifications. Additional information on pressure and vacuum controls is available upon request.*

UNITED ELECTRIC
CONTROLS COMPANY
85 School St., Watertown, Mass.

▲ For more details circle **NED-959 K1** on enclosed inquiry slip ▲

NOW! You Can End Refuse Storage Problems... WITHOUT Capital Outlay



DUMPMASTER-Equipped Private Haulers Provide Containers and Efficient Service

If you're plagued with trash piles, scattered refuse, fire hazards, and hit-or-miss collection, there's a good chance you can do something about it . . . WITHOUT CAPITAL OUTLAY!

In most major cities DEMPSTER-DUMPMASTER-equipped private haulers will put clean, big-capacity storage containers at convenient locations in your plant . . . empty them mechanically on schedule, or on a call-in basis . . . all for a reasonable monthly fee.

When you containerize your refuse, plant housekeeping becomes easy, employee morale goes up.

Write today for the name of your nearest private hauler. We'll also send literature describing his service.

Write Today for Free Brochure and Name of Nearest Private Hauler

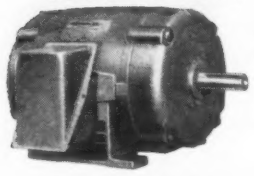
DEMPSTER BROTHERS Inc.
Dept. NE-10, KNOXVILLE 17, TENNESSEE

▲ For more details circle **NED-954 K1** on enclosed inquiry slip ▲

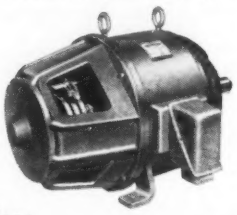
The <IMPERIAL> Line

MOTORS • GENERATORS • MOTOR-GENERATOR SETS

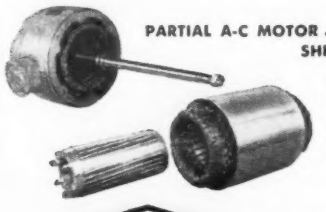
BEST POWER FOR STANDARD AND SPECIFIC-PURPOSE APPLICATIONS



DRIP-PROOF A-C MOTOR—*Today's Best Buy for Most Applications—Ratings from 1 to 200 Hp.—Designs Include Flange and Face Types, Multi-Speed, etc.*



WOUND-ROTOR MOTOR—*Open Construction—Allows Easy Access for Inspection and Excellent Ventilation and Self-cleaning Action—From ½ to 150 Hp.*



PARTIAL A-C MOTOR . . .
SHELL-TYPE SHAFTLESS MOTOR
. . . Other Special or Specific Types . . . Provide Maximum Power in Minimum Space . . . Blend with Basic Design of Machines.

<IMPERIAL> ELECTRIC COMPANY
84 Ira Avenue • Akron 9, Ohio

For more details circle NED-960 K1 on enclosed inquiry slip

NOW Controlled Tension From Start To Finish In Winding Roll-Fed Material

Never Before Anything So Efficient • Simple • Versatile

This is your chance to obtain a higher quality of wound material than ever before—and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "CHP" Winder. It's in a class by itself. No other winding device can match it for simplicity, efficiency and flexibility.

OPERATES ON A.C. Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. It can be connected *directly* to your rewind shaft. It is entirely independent of the main machine drive. You plug it into your present three-phase power outlet—no transformers or converters to bother with. Then you set a knob to the desired tension and walk away.

AUTOMATICALLY SENSES TORQUE. From the start to the very finish of your rewind operation, the "CHP" accurately maintains the desired tension—protects even the most delicate materials from stretching, breaking or contracting. Automatically the "CHP" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Controlled tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE. The efficiency of the "CHP" is many times greater than that of other types of winders. Maintenance is as slight as with any normal A.C. motor—there are no brushes or tubes. The "CHP" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible—connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

MULTIPLE APPLICATIONS. The "CHP" Winder has already proved its adaptability and efficiency in multiple applications:—for winding, unwinding and inspection of paper, plastics, rubber and woven and non-woven textiles in a wide range of widths and weights.

Find out for yourself just why the Hobbs "CHP" Winder can make such a big difference—how it can give you increased production through *positive* quality control. Mail coupon below for free information. No obligation.

HOBBS MANUFACTURING CO.
41J Salisbury St., Worcester 5, Mass.

Kindly send complete information on the new Hobbs "CHP" Winder.

Name ..... *Title* .....
Company .....
Street .....
City ..... *Zone* ..... *Prov.* .....

For more details circle NED-961 K1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Air-Powered Dispensing Equipment

FREE Lincoln Engineering Co.—Equipment shown in 32-page Catalog 42 includes air-operated pumping systems to dispense paint, cold roofing materials, food materials, calking compounds and sealers, mastic adhesives and glues, vinyl materials for molding, inks, and sound deadener materials. Also listed are hose, air controls, couplers, nipples, and adapters.

For more details circle NED-962 K1 on enclosed inquiry slip

Plastic Ball Selection Chart

FREE Ace Plastic Co.—Easy-to-use selection chart shows physical characteristics, tolerances, and typical uses for seamless plastic balls. These balls are made of six different plastic materials including nylon and Teflon. Possible ball modifications are also explained.

For more details circle NED-963 K1 on enclosed inquiry slip

Diamond Dressing Tools

FREE Koebel Diamond Tool Co.—CDP (Cemented Diamond Particles) diamond dressing tools described in 12-page Catalog 861 consist of diamonds set in powdered metal. Tools are used to dress centerless, cylindrical, and surface grinding wheels up to 20 in. diameter or more. They have been adapted for gashing and angle dressing jobs as well.

For more details circle NED-964 K1 on enclosed inquiry slip

Synchronous Motors

FREE Bodine Electric Co.—Construction and operation of 385 different types of synchronous motors from 1/2000 to 1/6 hp are detailed in 20-page Bulletin 10-36. List covers reluctance and hysteresis types. Within limits of their full-load torque ratings, all motors operate at speeds completely in step with the frequency of the power source. Speed reducer types are included.

For more details circle NED-965 K1 on enclosed inquiry slip

Liquid Cooling for Welding

FREE Bernard Welding Equipment Co.—"The Use of Water Cooling for Welding Equipment" is title of pamphlet which discusses the use, advantages, and problems of water cooling encountered in various welding processes. It deals with central cooling and self-contained coolant systems, as well as those using municipal or well water.

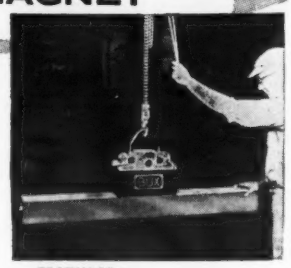
For more details circle NED-966 K1 on enclosed inquiry slip

Motor Capacitors

FREE Aerovox Corp.—Information on capacities and physical dimensions are given for all types of motor-run and motor-start capacitors in 16-page Catalog MS61-10. It features complete listings of expanded air conditioner and refrigeration lines of ac capacitors. One section covers a capacitor selector and an emergency capacitor.

For more details circle NED-967 K1 on enclosed inquiry slip

NEW BUX PERMANENT LIFTING MAGNET



RADIAL POSITIONER
Portable Magnetic
DRILL PRESS
Accurate Drill Positioning FAST!

New positive mechanical-action BUX Radial Positioner assures faster, accurate alignment of Bux portable-magnetic drill presses. Magnetic base remains stationary, safely holding unit to work on any "overhead" or "vertical" flatworking surface. Full 330° positioning-rotation. Lateral movement provided assures precision positioning for drilling, reaming, tapping. Available on Bux magnetic drill press models L-2RP and L-3RP.

FEATURES:
- Absolutely Permanent Ceramic Magnets
- Lifts better than 3000 lbs.
- 6½"x13" lifting face
- No wires • Completely self contained power pack
- Never needs recharging • No maintenance costs
- SAFE—Magnet cannot be turned off when in use
- No Batteries Required

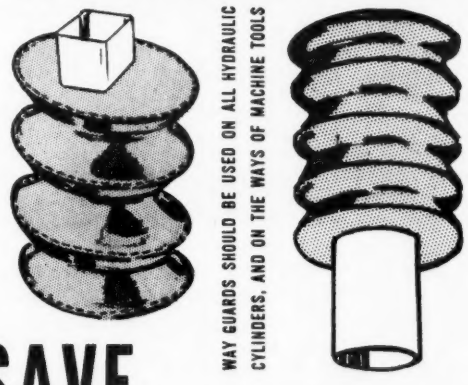
BUX magnetic products

for FREE Literature and Name of nearest Dealer . . Write:
BUX MAGNETIC PRODUCTS, INC
1355 N. 10th St. San Jose 12, Calif.

For more details circle NED-969 K1 on enclosed inquiry slip

WAY GUARDS

CUSTOM MADE OF NEOPRENE AND OTHER OIL RESISTANT FINISHES . . .



SAVE COSTLY REPAIRS OF WAYS AND PISTON CYLINDERS . . . . . .
65 years experience — industrial fabrics

LAACKE & JOYS CO.
1433 N. Water St., Milwaukee 2, Wis.
BR 1-7878

For more details circle NED-970 K1 on enclosed inquiry slip

NOW: SURGICAL-QUALITY LIGHTS

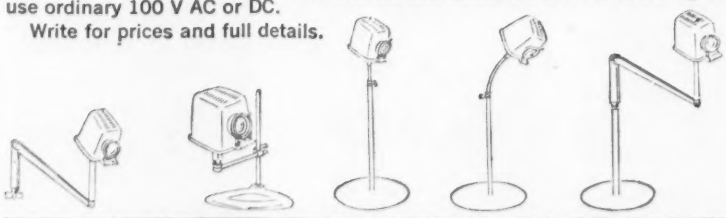
FOR INDUSTRIAL INSPECTION

Burton Fresnel lights are now available for general industry. Well-known to the medical profession for over 30 years, these lights have a precision lens that adjusts to either a concentrated spotlight or a powerful flood of color-corrected, heat-free light.

For miniature assembly work, for clean rooms, for demanding R&D, for close tolerances — any situation that requires optimum immediate-area illumation without eyestrain — Burton lights provide the perfect answer.

Desk-top Model 1200 is shown at right. Model 1203 has a 13" stand. Model 1277-10 has a clamp-on Fleximatic arm for easy three-dimensional adjustment. Gooseneck and floorstand models available too. All these lights use ordinary 100 V AC or DC.

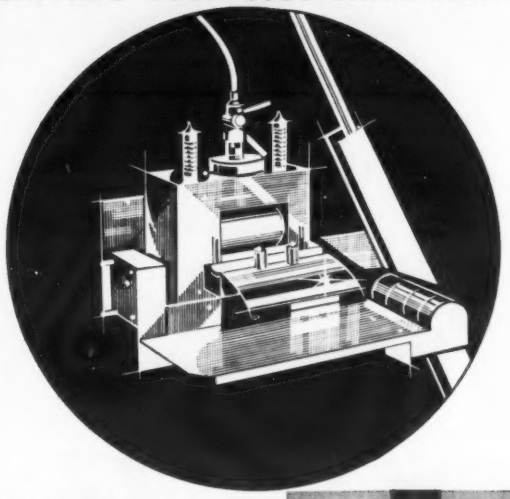
Write for prices and full details.



Controlled light where production counts.
BURTON MEDIC-QUIPMENT
Division of Burton Manufacturing Company
1918 E. Imperial Highway, El Segundo, Calif.

For more details circle NED-968 K1 on enclosed inquiry slip

AUTOMATE YOUR PRESS-RITE WITH HAVIR'S LOW COST AUTO-FEED



Havir's Auto-Feed pays for itself in reduced operator time and far faster stamping production. One press operator can run several Auto-Feed equipped presses.
Saves materials and makes more accurate stampings too. For all the facts in detail, write . . .

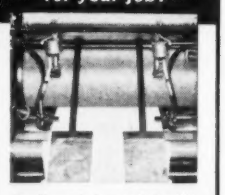
HAVIR MANUFACTURING CO.
442 North Cleveland Ave.
St. Paul, Minnesota

HAVIR

For more details circle NED-971 K1 on enclosed inquiry slip

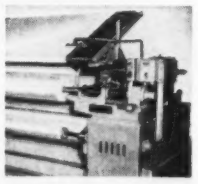
GPE Controls
WEB and STRIP GUIDES
Save TIME...MONEY...MATERIAL!

43 MODELS
...one just right for your job!



Medium-duty model with air sensing, positioning knives on rubber calender.

Photoelectric reflected light head following line on printed carton stock to eliminate slitting.



Light-duty unit with air sensing, applied to textile machinery.

Send for NEW Catalog EG-84

Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.

GPE Controls, Inc.
258 E. Ontario St., Chicago 11, Ill.

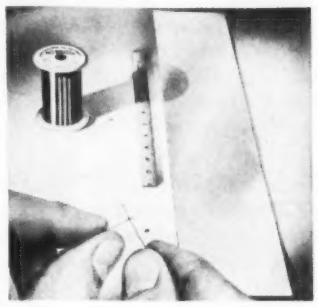
GPE Controls

A subsidiary of General Precision, Inc.

For more details circle NED-972 K1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

TUNGSTEN-RHENIUM ALLOYS in wire and strip forms



Ultra high temperature tungsten-rhenium refractory metal alloys are now available in an expanded range of wire and strip sizes due to improved metallurgical processing techniques. Now being produced is a tungsten-26% rhenium alloy in diameters as fine as 0.0005 in. and in continuous lengths of over 2000 ft. Short strips of the same composition are also made in widths to 4 in. with thicknesses down to 0.005 in. Properties of the alloy include high tensile strength at high temperature, good electrical resistivity, and melting point of about 5800° F. It remains ductile after being heated through recrystallization range. • **Hoskins Mfg. Co.**, 4445 Lawton Ave., Detroit 8, Mich.

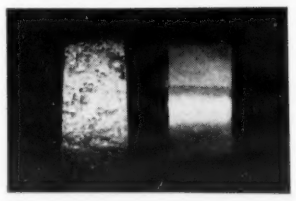
For more details circle NED-973 K1 on enclosed inquiry slip

INDUSTRIAL CLEANING SOLVENT used safely in confined areas

Up to 20 times less toxic than carbon tetrachloride, V-Sol noninflammable industrial cleaning solvent can be used safely in confined areas. It removes oil, grease, wax, and tars from hand tools, sheet metal, machine tools and components, tubing, and other metal products, using dip, cold-cleaning, and bucket-cleaning methods. For dip cleaning, solvent is furnished in a portable 5-gal container fitted with a metal tray that can be raised or lowered. Parts can thus be degreased on the job. Cleaner is also available in 1-gal cans and 55-gal drums. • **Speco, Inc.**, 7308 Associate Ave., Cleveland 9, Ohio.

For more details circle NED-974 K1 on enclosed inquiry slip

BAR SOLDER free from oxide-forming elements



Printed circuit joint rejects are minimized by use of Vaculoy bar solder which is relatively free from oxide-forming elements. Minimum of dross, long bath life, few inherent inclusions, good wetting properties, and bright joints are realized from its use. Solder is stocked in common tin-lead alloys in 1-lb bars or 9-lb ingots for automatic soldering machines. • **Alpha Metals, Inc.**, 56 Water St., Jersey City 4, N. J.

For more details circle NED-975 K1 on enclosed inquiry slip

NEW

for grinding, routing, polishing, drilling, sawing, deburring, cutting, carving, brushing, erasing, buffing, sanding

Plug in anywhere on 110 volts A.C. or D.C.
Whether you work with metal, plastics, leather, rubber, wood or glass, this precision miniature power tool will ease and speed your work. No more gripping an unwieldy ¼" drill with both hands—Foredom's pencil slim handpieces are ideal for every sort of sensitive operation, leaving one hand free to hold or guide the work.

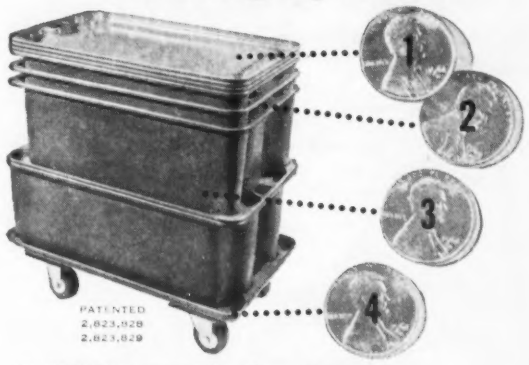
- 1/10 HP motor with speed range up to 12,000 RPM.
- New carbon-pile, continuously variable foot rheostat.

UL approved . . . For complete information, write today for Bulletin #213.

FOREDOM ELECTRIC COMPANY, INC.
Bethel, Connecticut
Manufacturers of Miniature Power Tools

For more details circle NED-976 K1 on enclosed inquiry slip

Stack-n-Nest® containers make "CENTS" in every handling system

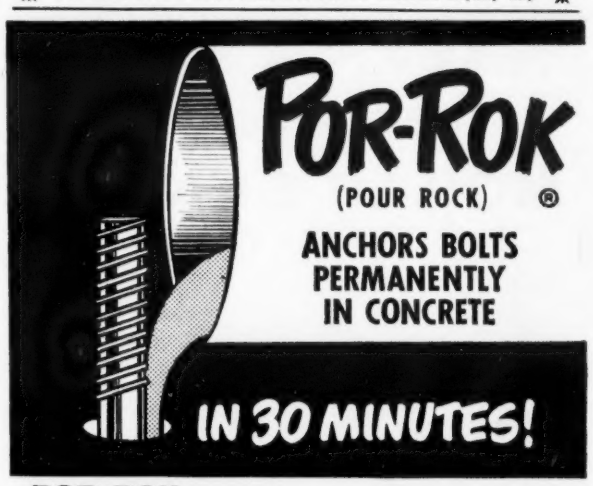


1. Matching covers for clean storage
2. Pans nest . . . for minimum storage space
3. Pans stack securely for multiple handling and safe, high storage
4. Matching dollies for rapid, easy movement

Write for brochure on complete line. Also ask for information on Lewis Woven Wood-and-Wire Containers, Plastibox Assembly Bins and Mounting Accessories, and PolyLewton Food Handling Pans.

G.B. Lewis COMPANY
410 Montgomery Street • Watertown, Wisconsin

For more details circle NED-977 K1 on enclosed inquiry slip



POR-ROK
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1927

For more details circle NED-978 K1 on enclosed inquiry slip

NEW

Foredom miniature power screwdrivers boost production of thermocouples 87% at Harco Laboratories, Inc., New Haven, Conn. Tedious and slow hand driving of the many small screws in each assembly is replaced by the swift, efficient Foredom action — with important savings of time and money.

Available in bench or hang-up model, the screwdriver has adjustable touch control, handles screws and nuts from #0 to #4.

Handpiece is 8" long, weighs only 5½ oz. Powered by 1/10 HP universal motor. For complete information, write now for Bulletin #224.

FOREDOM ELECTRIC COMPANY, INC.
Bethel, Connecticut
Manufacturers of Miniature Power Tools Since 1922

For more details circle NED-979 K1 on enclosed inquiry slip

How to select

WORM GEAR Drives

FREE TO DESIGN ENGINEERS

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

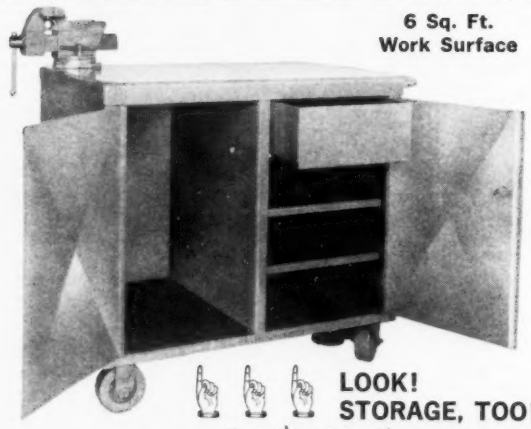
CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle NED-985 K1 on enclosed inquiry slip

SAVES STEPS

TIME & TOOLS

MOBILE BENCH



6 Sq. Ft. Work Surface

LOOK! STORAGE, TOO!

Rugged Roll-A-Bench all-welded of 1/8 and 3/16 in. plate. Supports 2000 lbs. Easily moved by one man. Doors lock to protect tools!
Shipping Weight: 335 lbs. $185.00 fob Cleveland

the Overbeke-Kain company
20979 AURORA RD. / BEDFORD, OHIO

For more details circle NED-986 K1 on enclosed inquiry slip

CORROSION? WEAR?

End pump problems with ADVANCED

DEMING CENTRIFUGALS

Deming End Suction Centrifugal Pump. 1" to 6" discharge size. 10 G.P.M. to 2400 G.P.M. Heads to 240 feet. ¼ H.P. to 25 H.P. Most sizes right or left hand rotation.

Deming advance design features show you why Deming Pumps handle toughest jobs with ease—

■ Liquid ends range from tough cast iron to special corrosion-resistant alloys.

■ 4-piece liquid ends get rigid, leak-stopping support — from ruggedly designed power end and 2-ball bearing suspension.

■ You can regulate capacity and head—because of Deming axial adjustment.

■ A Deming is the simplest to service.

Send your problem to Deming—"Pump Information Headquarters."

DEMING
DIVISION CRANE CO.
1006 Broadway • Salem, Ohio

Write for Bulletin 4011-E

For more details circle NED-987 K1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Compression Tube Fittings

FREE Parker-Hannifin Corp., Parker Fittings & Hose Div.—Twenty-five items in the Ridg-lok line of compression tube fittings are shown with dimensions in 20-page Catalog 4323. Fittings feature a reversible ferrule, with both ends identical. They are made in 316 stainless steel and brass in sizes for 1/16 through 1-in. OD tubing.

For more details circle NED-988 K1 on enclosed inquiry slip

Rigid Polyvinyl Chloride Products

FREE Kaykor Products Corp.—Rigid PVC plates and sheets, as well as PVC joining accessories, extrusions, bolts, and nuts are descriptively covered in 24-page Catalog RV-61. Plates and other shapes are fabricated into a variety of chemical process equipment, ventilating hoods and ducts, stacks, and small processing vessels. Physical properties, chemical resistance, fabrication and design, and applications are covered.

For more details circle NED-989 K1 on enclosed inquiry slip

Air Control Products

FREE Scovill Mfg. Co., A. Schrader's Son Div.—48-page digest-size Catalog 125 covers line of air and hydraulic equipment ranging from cylinders, valves, and rotating joints to filters, regulators, quick-acting couplers, and hose fittings. Dimensions, flow rates, and operating pressures are given as well as typical air control circuits.

For more details circle NED-990 K1 on enclosed inquiry slip

Silicone Fluids Reference

FREE General Electric Co., Silicone Products Dept.—Comprehensive 20-page Technical data book S-9 on the broad range of major silicone fluids differentiates between available grades according to viscosity and classifies them on the basis of physical properties. A physical data summary chart and a silicone fluid selector are special features.

For more details circle NED-991 K1 on enclosed inquiry slip

Solving Heat Transfer Problems

FREE Electrofilm, Inc.—Graphical solutions to several heat transfer problems are given in design manual HDM-761 on electrical heating elements. Additional data on heat transfer coefficients and specific heat and thermal conductivities are supplied.

For more details circle NED-992 K1 on enclosed inquiry slip

Handbook on Brass

FREE H. K. Porter Co., Riverside-Alloy Metal Div.—Handbook on brass furnishes data on composition, specifications, and properties of brass wire, rod, and strip. Information covers temper, tensile, melting point, electrical conductivity, and relative machinability.

For more details circle NED-993 K1 on enclosed inquiry slip

LOW PRESSURE CONTROL FOR GAS OR AIR

UL LISTED FM APPROVED

MERCOID

REAR PRESSURE CONN. ⅛" MALE I.P.S. WITH ¼" FEMALE I.P.S.
FRONT PRESSURE CONN. ⅛" FEMALE I.P.S.

Repetitive Trip Point
External Adjustments
Visible Calibrated Dial
Visible Contact

CAN BE USED THREE DIFFERENT WAYS

The Mercoid PG employs a diaphragm which actuates a mechanism for opening or closing a mercury switch. The diaphragm separates two pressure chambers, one of which may be used for positive pressure; the other for negative (vacuum) operation or both chambers may be used to provide operation due to a difference in pressures between them.

WRITE FOR BULLETIN PG

THE MERCOID CORPORATION
4211 Belmont Ave., Chicago 41, Ill.

For more details circle NED-994 K1 on enclosed inquiry slip

NOW... PRODUCE SATIN FINISHES 20 TIMES FASTER with a TIMESAVERS SPEEDBELT SANDER

BRENNER METAL PRODUCTS CORP., BROOKLYN, N. Y. has slashed finishing costs by installing a Model TOP-18 and increasing output a tremendous 2000%. The job calls for finishing stampings used for metal boxes to a flawless satin finish prior to forming. Now, one Timesaver "Speedbelt" Sander does the work previously handled by 4 men with pad and stroke sanding machines . . . with plenty of open time for other work not originally planned on.

Investigate the advantages of Timesaver wide abrasive belt finishing for your plant. Write for fact sheet and literature today.

TIMESAVERS SANDERS, INC.
Dept. P-2, 5270 HANSON CT.
MINNEAPOLIS 22, MINN.

Timesaver "Speedbelt" Sanders are manufactured under one or more of the following U. S. Patents: 2,813,352; 2,860,454; 2,876,600; 2,934,863; 2,958,989 with other patents pending.

For more details circle NED-995 K1 on enclosed inquiry slip

Make it COUNT!

Durant Sales Engineers will supply a PRODUCTIMETER for every machine your company designs and manufactures.

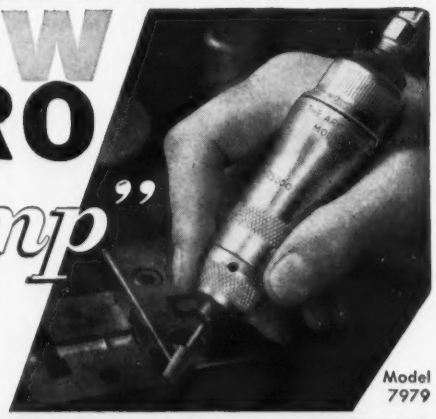
Send for Bulletin #200

DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis.
22 Thurbers Ave. Providence 5, R. I.
Representatives in Principal Cities

DURANT
COUNTING INSTRUMENTS

For more details circle NED-996 K1 on enclosed inquiry slip

NEW ARO "imp"



Model 7979

HIGH SPEED AIR GRINDER

GRINDS • DEBURRS • POLISHES • ENGRAVES

- No lubrication required . . . trouble-free performance.
- 75,000 R.P.M. turbine grinder . . . for finest grinding.
- Takes ⅛" shank-mounted wheels or cutters.
- Precision-made . . . compact, simplified design.
- Forward exhaust keeps work area clean.

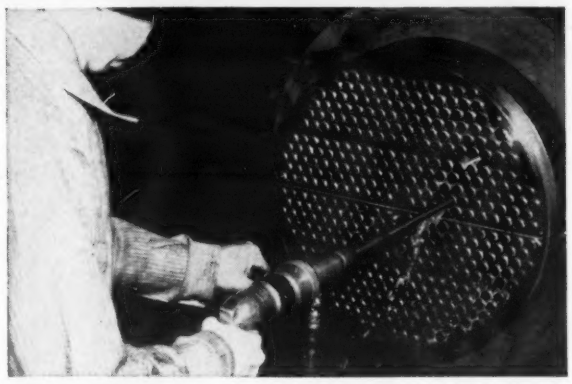
ARO
AIR TOOLS
Also Air Hoists . . . Automation Tools

ONLY $49.50
COMPLETE with ⅛" collet, 8' air hose and air line filter

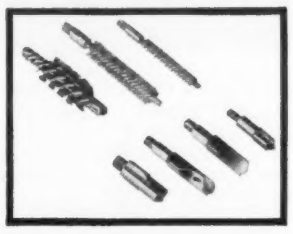
SEE YOUR ARO DISTRIBUTOR FOR A DEMONSTRATION

THE ARO EQUIPMENT CORPORATION
Bryan, Ohio
Aro Equipment of Canada, Ltd., Toronto 15, Ont.
Offices in All Principal Cities

For more details circle NED-997 K1 on enclosed inquiry slip



ELLIOTT lightweight, air-operated tube cleaner for heat exchangers and condensers



Pistol-grip, easy to handle. High-speed air-driven motor, trigger control, gear reduction to 1500 rpm. Governor prevents shaft whip. Built-in oil reservoir. Integral water-feeding attachment. Brushes and heads (right) for various requirements. Send for Bulletin.

YI 6

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS AT: Jeannette and Ridgway, Pa.; Springfield, Ohio; Newark, N. J.

For more details circle NED-998 K1 on enclosed inquiry slip

RENFROE LINE

STEEL LIFTING CLAMPS

- 14 different designs
- ½ Ton to 20 Ton Capacity
- 5 to 1 Safety factor
- All clamps safety tested
- 3 to 1 before shipment

Special design clamps available on request

Safety Snap Lock

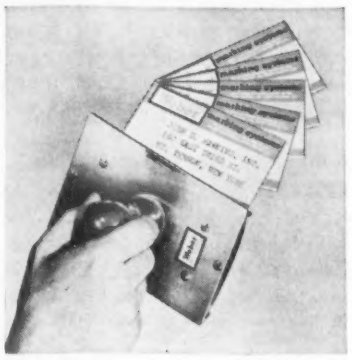
Write for Renfroe catalogue

J. C. RENFROE & SONS, INC.
1926 SPEARING ST. • JACKSONVILLE, FLORIDA

For more details circle NED-999 K1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

MARKING INK
for use on all nonporous surfaces



Multiple marking on nonporous surfaces is performed quickly with the Weber Handprinter and a new All-Mark ink. The ink is formulated for use with hand stencil-type printing devices. Product identification, code numbers, and other markings are made on metal, glass, plastic, rubber, foil, and other surfaces at up to 60 impressions per minute. The stencil can be prepared by hand, typewriter, or other means. Green, blue, red, orange, yellow, and black colors are available. • **Weber Marking Systems, Inc.,** Weber Industrial Park, Mount Prospect, Ill.

For more details circle NED-1001 K1 on enclosed inquiry slip

CORROSION INHIBITOR
for parts, assemblies, products

Applied by brush, dip, spray, or slushing, various blends of Nopcochex D oil-soluble corrosion inhibitor can be used to protect bar stock, sheet steel, tools, castings, assemblies, storage tanks, and ferrous parts from rust. This concentrate can be mixed with water, conventional oils, or solvents to prepare various types of rust preventives. • **Nopco Chemical Co.,** Industrial Division, 60 Park Place, Newark 1, N. J.

For more details circle NED-1002 K1 on enclosed inquiry slip

FINGER PROTECTING TAPE
gauze tape sticks only to itself

Workers who handle rough, sharp, hot, or abrasive parts or materials can protect their fingers by making finger cots with Gauztape. It sticks only to itself, not the skin, and is easy to apply and remove. Finished cots are soft as cotton, flexible, and have nonslip qualities to permit rapid, efficient handling of small, thin parts. Tape is also good for transformer laminating and pigtailing. • **Modern 1st Aid Necessities Co.,** 737 W. Randolph St., Chicago 6, Ill.

For more details circle NED-1003 K1 on enclosed inquiry slip

Quadriga means Quality

METAL STAMPINGS

ITEM: 13" blank of 13 gauge steel . . . 4 operations . . . approx. 2" depth of draw . . . O. D. tolerance ±.003".

ITEM: 9¾" blank of 14 gauge steel . . . 5 operations . . . approx. 1¾" depth of draw . . . O. D. tolerance ±.003".

ITEM: 3¾" blank of 20 gauge brass . . . 2 operations, (a) compound blank and pierce, (b) sheer form . . . consistent angle to vanes . . . close tolerances.

ITEM: 7½" wide strip of 20 gauge steel . . . 6 station progressive die . . . close tolerances.

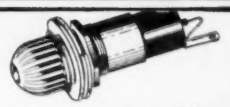
ITEM: 1¼" wide strip of 26 gauge steel . . . 4 station progressive die . . . close tolerances.

Any metal, medium to high quantity. Depth of draw to 3½ inches . . . press capacities to 150 tons. Send B/P or specs for estimate. Request catalog on your company letterhead.

THE Quadriga MFG. CO.
221 WEST GRAND AVE. • CHICAGO 10, ILL.

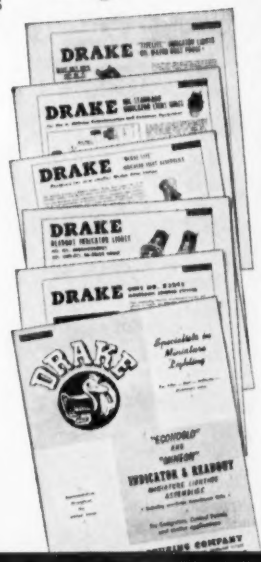
For more details circle NED-1005 K1 on enclosed inquiry slip

SEND FOR THESE DETAILED DATA SHEETS
ON MINIATURE LAMPHOLDERS AND INDICATOR LIGHTS



- No. 6105—"Titelite" Oil-Water-Dust Proof Indicator Assemblies
- No. 6104—Mil-Standard Indicator Assemblies
- No. 6103—"Wedge-Lite" Indicator Assemblies for Wedge-Base Lamps
- No. 6002—Nos. 103 (Incandescent) and 103N-022 (Hi-Brite Neon) Readout Indicator Assemblies
- No. 5803—No. X3245 Electronic Trigger Switch
- No. 6107—"Econoglo", "Mineon", "Tinylite" Midget, and other Indicator and Readout Assemblies (6-page folder)

and also the Quick-Reference Catalog of the big DRAKE line.

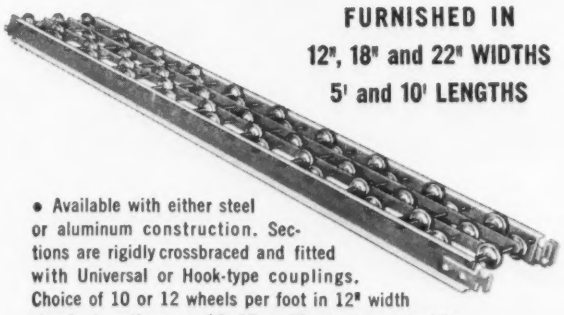


DRAKE
MANUFACTURING COMPANY
4624 N. OLCOTT AVENUE • CHICAGO 31, ILLINOIS
MINIATURE LIGHTING SPECIALISTS

For more details circle NED-1006 K1 on enclosed inquiry slip

AUTO-Glide

WHEEL CONVEYER SECTIONS



FURNISHED IN 12", 18" and 22" WIDTHS 5' and 10' LENGTHS

• Available with either steel or aluminum construction. Sections are rigidly crossbraced and fitted with Universal or Hook-type couplings. Choice of 10 or 12 wheels per foot in 12" width standard sections . . . 12, 16 or 20 wheels per foot in 18" width; 16, 20, 24, 28 in 24" width. Zinc coated steel or aluminum wheels. Frames are 2-½" formed channel. For further information write for Catalog MSP-G1-61 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

For more details circle NED-1000 K1 on enclosed inquiry slip

AUTO-Glide

PORTABLE BELT CONVEYERS

PROVIDE LOW-COST TROUBLE-FREE PORTABLE PACKAGE HANDLING

MODEL WC-100

• Available in suitable sizes and capacities for loading and unloading. Model WC-100 employs spring-loaded raise and lower mechanism for instant adjustment. Constructed of rigid, welded tubular steel. Roller chain drive assures positive flow of boxes, bags, cartons, cases or crates as high as 30- degree incline. For further information write for Bulletin PB 860 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

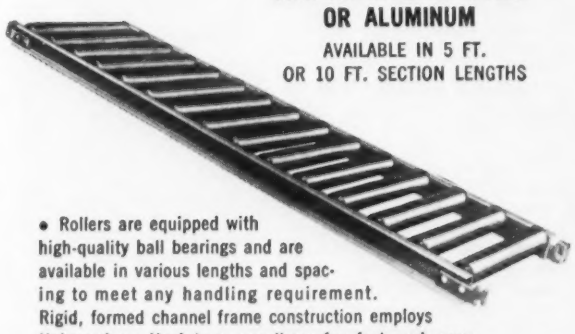
For more details circle NED-1004 K1 on enclosed inquiry slip

AUTO-Glide

STANDARD DUTY ROLLER CONVEYERS

CONSTRUCTED OF STEEL OR ALUMINUM

AVAILABLE IN 5 FT. OR 10 FT. SECTION LENGTHS



• Rollers are equipped with high-quality ball bearings and are available in various lengths and spacing to meet any handling requirement. Rigid, formed channel frame construction employs Universal or Hook-type couplings for fast and easy assembly. For further information write for Catalog MSP-G1-61 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

For more details circle NED-1007 K1 on enclosed inquiry slip

JUST WON'T SLIP!

STYLE NO. 411

The rough finished latex coating of this Granet SLIP-NOT glove provides thousands of gripping edges that really bite . . . like a tread on a tire. It just won't slip! A rugged, general purpose work glove . . . ideal for handling lumber, concrete, metal, glass and other 'hard-to-handle' materials.

Whether you are concerned with grease, chemicals, mechanical abrasion or other hand protection needs, check the Granet Line of gloves first.

Write . . . on your letterhead for a free pair. Test them yourself!

Granet Gloves . . . manufactured under stringent quality control methods . . . are guaranteed as first quality.

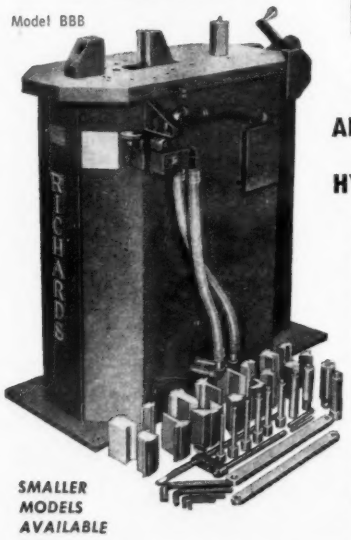
THE GRANET CORP.
25 LORING DRIVE, FRAMINGHAM, MASS.

▲ For more details circle NED-1008 K1 on enclosed inquiry slip ▲

Multiform

BIG BROTHER BENDER

Model BBB



SMALLER MODELS AVAILABLE

Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

AIR OPERATED MODELS IN FOUR SIZES
HYDRAULIC—3 MODELS

The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to 1/4" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to 1/8" x 1 1/2".

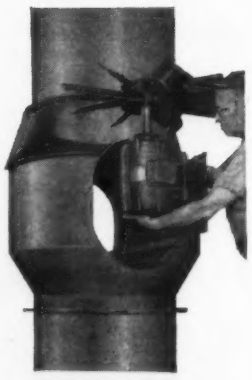
Send for illustrated folder M6

J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

▲ For more details circle NED-1009 K1 on enclosed inquiry slip ▲

new induced draft fan cuts maintenance costs

Simple removal of patented cone section permits motor and fan assembly of Induced Draft DE BOTHEZAT BIFURCATOR to slide out on rails* for quick, easy inspection. BIFURCATOR housing, originally installed like a section of the stack or breeching, remains in place. Insulated twin ducts carry fumes around motor, permitting economies of direct drive with motor operating in clean, cool air. Motor speed controllers adjust draft to boiler requirements. Fan wheels 12" to 36". Send for literature. Address Dept. NED-1061.



*Optional Extra. Patents Pending.

De Bothezat®
DE BOTHEZAT FANS DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS
Divisions of American Machine and Metals, Inc.
TROY LAUNDRY MACHINERY • RIEHLE TESTING MACHINES • DE BOTHEZAT FANS • TOLHURST CENTRIFUGALS • FILTRATION ENGINEERS • FILTRATION FABRICS • NIAGARA FILTERS • UNITED STATES GAUGE • AUTOBAR AUTOMATIC DEVICES • LAMB ELECTRIC COMPANY • HUNTER SPRING COMPANY • GLASER-STEERS CORPORATION

▲ For more details circle NED-1010 K1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Lathe, Grinder & Boring Chucks

FREE Buck Tool Co.—Revised 24-page chuck Catalog 61 shows conventional independent chucks, Ajust-Tru 2, 3, and 6-jaw scroll chucks, and dustproof and steel power chucks. New items include gibbed-keyway aluminum-body power chucks up to 18 in. and jaw turning fixtures, cams, and air cylinders.

▲ For more details circle NED-1011 K1 on enclosed inquiry slip ▲

Adhesives for Ceramic Tile

FREE Technical Adhesives, Inc.—Mortars, mastics, grouts, and related products for ceramic tile installation are among items covered in 8-page AIA File Catalog 23-P. Specialty items for use in the mosaic tile, marble, and terazzo fields are described as well.

▲ For more details circle NED-1012 K1 on enclosed inquiry slip ▲

Socket Wrenches

FREE Wright Tool & Forge Co.—Socket wrench sets, loose tools, and latest additions to company's line are reviewed in 20-page Socket Catalog No. 102. Ratchet wrenches now consist of eight short-swing models with 1/4 through 1-in. drives.

▲ For more details circle NED-1013 K1 on enclosed inquiry slip ▲

Laminated & Molded Plastics

FREE Richardson Co.—Services and products offered by this company in the laminated, fabricated, and molded laminated plastic fields are outlined in 12-page brochure. Printed circuits, gears, bearings, and intricately machined military parts, as well as molded laminated parts, are illustrated.

▲ For more details circle NED-1014 K1 on enclosed inquiry slip ▲

Fastener Value Analysis

FREE H. M. Harper Co.—"Fastener Value Analysis" is title of 14-page brochure which explains the techniques for evaluating metal fasteners in terms of their use. It not only tells how to set up and operate a value analysis operation, but cites examples of product improvements achieved by such analysis.

▲ For more details circle NED-1015 K1 on enclosed inquiry slip ▲

Right-Angle Speed Reducers

FREE D. O. James Gear Mfg. Co.—24-gage Catalog 42C also serves as a handbook on single-reduction, right-angle spiral bevel gear speed reducers of both horizontal and vertical design. It provides formulas for reducer selection and tells how to determine load characteristics for more than 160 uses. Data cover units with 100 to 1750-rpm inputs, ratios from 1:1 to 6:1, and capacities from 0.14 to 336 hp.

▲ For more details circle NED-1016 K1 on enclosed inquiry slip ▲

Lubrication Systems

FREE Research Appliance Co., Lubrication Div.—Direct, single line, dual line, oil circulating, and constant pressure De Limon lubrication systems are outlined in 36-page brochure. Basically system consists of a pump that receives lubricant from a reservoir and delivers it in required quantities to various points. Heart of system is a De Limon pump available to handle oil or grease, or both.

▲ For more details circle NED-1017 K1 on enclosed inquiry slip ▲

Precision Jewel Bearings & Products

FREE Moser Jewel Co.—Jewels, jewel bearings and assemblies, pivots, pivot assemblies, and other industrial jewel products for aircraft, missile, marine and electrical equipment are subject of 8-page manual. Information covers properties, jewel types and characteristics, selection factors, and applications.

▲ For more details circle NED-1018 K1 on enclosed inquiry slip ▲

Hydraulic & Pneumatic Packings Guide

FREE Chicago-Allis Mfg. Corp.—16-page Bulletin 341 on pneumatic and hydraulic packings also serves as a design handbook and guide. It covers cup, flange, U, and Vee packings, O-rings, back-up washers, one-piece double acting piston cups, and double-lip shaft wiper seals in leather, rubber, fabric, and Teflon.

▲ For more details circle NED-1019 K1 on enclosed inquiry slip ▲

Gage Assembly Ideas

FREE Boice Gages, Inc.—New edition of company's "Ideas" booklet shows how standard Boice components can be incorporated into special and unusual gaging assemblies. Simple solutions to many common gaging problems are shown on applications involving diameters, depths, grooves, and angles.

▲ For more details circle NED-1020 K1 on enclosed inquiry slip ▲

NEW PACK-AGING SYSTEM

MA SYSTEM FOR AUTOMATED POLYETHYLENE PACKAGING

Send for tell-all folder on the new MA System that packages all kinds of products in polyethylene in just one operation. Shows how you can save up to 50% in materials and labor costs by producing your own packages from polyethylene roll stock.

FREE SAMPLE PACKAGING—You can have your product test-packaged by the MA System. Indicate loose or shrink-fit polyethylene package and send your product to: Mehl Manufacturing Company, 2057 Reading Road, Cincinnati 2, Ohio.

ma SYSTEM

▲ For more details circle NED-1021 K1 on enclosed inquiry slip ▲

FREE TEST SAMPLES

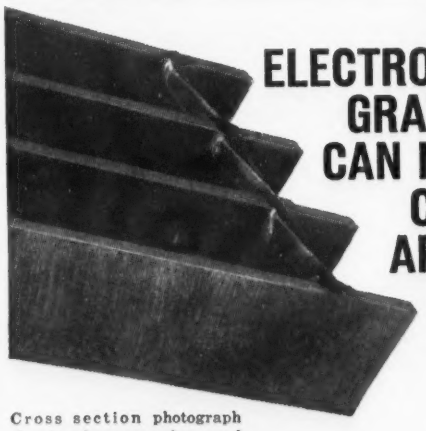
SHAKEPROOF® LIVE ACTION LOCK WASHERS

Test genuine Shakeproof Live Action Lock Washers FREE! Prove to yourself how Shakeproof's exclusive features—line bite, spring reaction, strut action—produce a lock washer that will outlast and outhold any other fastener!

WRITE FOR FREE SAMPLE KIT!

itw SHAKEPROOF®
DIVISION ILLINOIS TOOL WORKS INC.
St. Charles Road, Elgin, Illinois

▲ For more details circle NED-1022 K1 on enclosed inquiry slip ▲



WHY ELECTROFORGED® GRATING CAN NOT COME APART IN USE

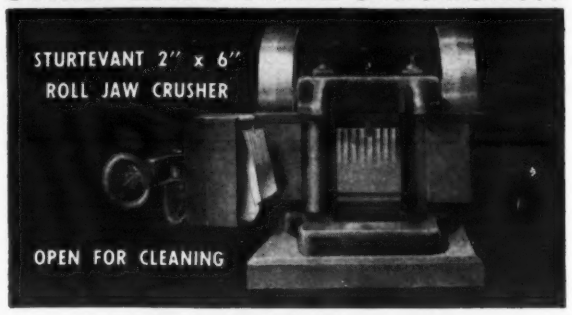
Cross section photograph showing how cross bars and bearing bars melt and flow together for great strength and long life.

Bearing bars and cross bars of Blaw-Knox Electroforged grating are permanently forged into one homogeneous piece under simultaneous high temperature and pressure. ■ Forever after they can not come apart. ■ Each panel is rigid, extra strong, easy to handle and as easy to cut and fit accurately as solid plate. ■ No cracks or crevices to catch dirt or promote corrosion. ■ Twisted rectangular cross bars present multiple square edges for anti-skid walking. Bearing bars may be serrated for maximum safety. ■ *Write for FREE COPY of Bulletin 2581. Blaw-Knox Company, Pittsburgh 38, Pa.*

BLAW-KNOX GRATING

▲ For more details circle NED-1023 K1 on enclosed inquiry slip ▲

SAMPLING TIME slashed...



. . . by Small-Scale Duplication of Full-Scale Production!

12-PAGE BULLETIN PROVES IT!

SEE how exclusive "OPEN-DOOR" design makes cleaning and maintenance quick and easy . . . how rugged construction keeps equipment running round the clock for years.

COMPARE the capacities and performance of Sturtevant Roll Jaw Crusher, Crushing Rolls, Swing Sledge Mills and Sample Grinder with what you are now using.

LEARN why the "blue chips" in industry and education prefer Sturtevant Laboratory Equipment.

WRITE FOR 12-PAGE BULLETIN on Sturtevant Laboratory Equipment and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT

Dry Processing Equipment

The "OPEN-DOOR" to *lower* operating costs over *more* years

CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle **NED-1024 K1** on enclosed inquiry slip

Tack this up on your design board!

NEED A CADMIUM-PLATED RIVET FOR A WIDGET? A MICROSCOPIC EYELET FOR A GADGET? A NAIL, TACK, STAPLE, GROMMET, BURR, WASHER, OR A "YOU-NAME-IT" FOR A "HASN'T-BEEN-BUILT-YET?"

Atlas Has It!

—or will make it up— quickly, in quantity, with quality, in any metal —at a saving! Just send us a few details of your problem for prompt attention.

Specialty Department

Atlas Tack Corp.

Fairhaven, Mass.
Since 1810

For more details circle **NED-1025 K1** on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

POLYETHYLENE TAPE
adheres to plastic, wood, metal

All-purpose Ger-Pak Miracle Tape is a waterproof, pressure-sensitive, polyethylene tape that will adhere to plastic, paper, smooth wood, and metal with high

pull strength. It is used to seal, patch, join, and fasten plastic sheeting and can be used to protect shipping container labels from the weather. Tape will not shrink nor become brittle. It is offered in natural-clear or opaque black in box dispensers with built-in cutting edge and has a peelable split-paper backing. Rolls are 100 ft long by 2 in. wide, and price ranges from $2.14 to $3.03 per roll, depending upon quantity. • **Studebaker-Packard Corp.**, Gering Plastics Div., N. Seventh & Monroe Avenue, Kenilworth, N. J.

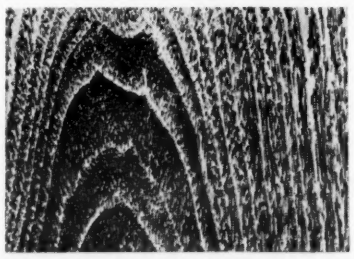
For more details circle **NED-1027 K1** on enclosed inquiry slip

ANTIDUSTING COMPOUND
applied to cement floors

Two ounces of Jokem Soluble Wood, a free-flowing white powder, is dissolved in 1 gal of water to produce a clear solution that controls dusting of cement floors. It is broomed over the floor surface, with 1 gal covering about 100 sq ft. Other uses include the sizing and sealing of cement floors, wood, and masonry walls before painting or varnishing. Price is $2.50 per lb. • **Chemaster Laboratories, Inc.**, Box 3037, Long Island City 3, N. Y.

For more details circle **NED-1028 K1** on enclosed inquiry slip

ALUMINUM FOIL
etched with wood veneer patterns

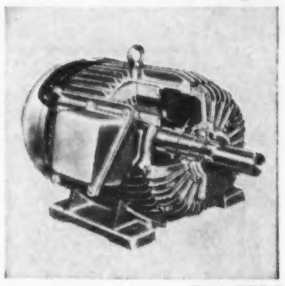


The vibrant colors and grains of fine teaks, mahoganys and other finished woods are permanently etched in Anoveer, an adhesived-backed anodized aluminum foil made for creating attractive panelling effects. Product has wide application possibilities in radios, television and Hi-Fi sets, and interior moldings for automobiles and aircraft. • **Anodyne, Inc.**, 1270 N. W. 165th St., North Miami Beach 69, Fla.

For more details circle **NED-1029 K1** on enclosed inquiry slip

Increase production with **SCHORCH INDUCTION MOTORS**

3-Phase Horizontal • Completely Enclosed • Fan-Cooled • SUPERIOR STARTING CHARACTERISTICS. Rerated NEMA Frames • TOP RUNNING PERFORMANCE . . to class B temperatures . . . • LOW MAINTENANCE . . . epoxy insulation. • Also available: Open Drip-Proof with same characteristics. • Complete program. • National sales and service. For full information, write:

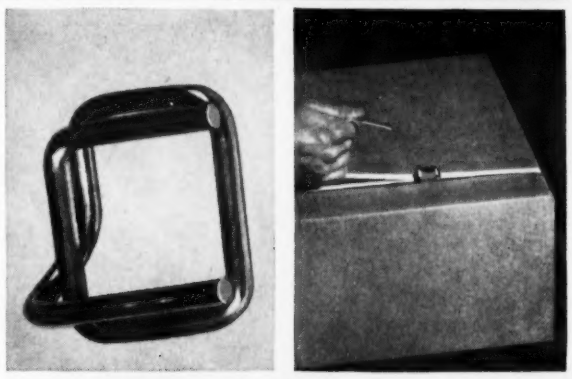


Dept. NED-2

Georg von Opel Corp.

15 William St., New York 5, N. Y.
BO. 9-5690/1

For more details circle **NED-1031 K1** on enclosed inquiry slip



STRAP WITHOUT TOOLS use AVISTRAP® cord strapping and new AVB one-piece buckle

Slip AVISTRAP Cord Strapping through the buckle, pull tight, and the job is done. There's never been a faster, simpler way of strapping. AVISTRAP will absorb shocks that break metal strapping, and the buckle fastener has very nearly the strength of the strap itself. You can work directly from the AVISTRAP coil without precutting. Packages that tend to settle can be retensioned. Buckles and strap can be reused. Buckles available for AVISTRAP in ¼" through ¾" sizes. Write for sample.

AVISTRAP CORD STRAPPING*

*PATENTS PENDING

INDUSTRIAL PACKAGING DEPARTMENT

American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pa.

For more details circle **NED-1032 K1** on enclosed inquiry slip

COMPLETE, MOTORIZED, HYDRAULIC POWER PACKAGES

FROM $234 LIST

BASIC MODELS

Basic design (Series PKM6)—requiring minimum investment—has adjustable overload relief valve for pressures to 1500 psi.

With Vickers motorized hydraulic packages you get these advantages:

- Easy installation—no alignment of components.
- Choice of electric motors—1 to 3 hp—single or three phase—TEFC.
- Flows to 5 gallons per minute.

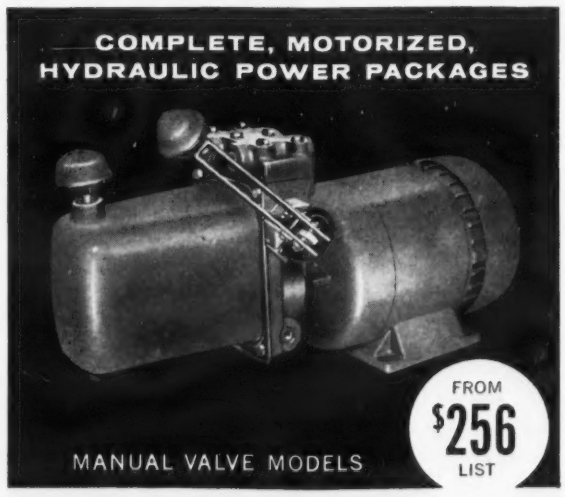
9809 FOR MORE DETAILS WRITE FOR BULLETIN 61-82.

VICKERS

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle **NED-1026 K1** on enclosed inquiry slip

COMPLETE, MOTORIZED, HYDRAULIC POWER PACKAGES



FROM $256 LIST

MANUAL VALVE MODELS

Manual valve models (Series PKM1)—have choice of tamper-proof overload relief valves ranging from 250 to 1500 psi and 1, 2 or 3 manually operated valves.

With Vickers motorized hydraulic power packages you get these advantages:

- Easy installation—no alignment of components.
- Choice of electric motors—1 to 5 hp—single or three phase—TEFC.
- Flows to 8 gallons per minute.

9810 FOR MORE DETAILS WRITE FOR BULLETIN 61-82.

VICKERS

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle **NED-1030 K1** on enclosed inquiry slip

COMPLETE, MOTORIZED, HYDRAULIC POWER PACKAGES

FROM $375 LIST

SOLENOID DIRECTIONAL VALVE MODELS

Solenoid valve models (Series PKS1)—for remote control—with 1 or 2 four-way valves and 1500 psi adjustable relief valve.

With Vickers motorized hydraulic power packages you get these advantages:

- Easy installation—no alignment of components.
- Choice of electric motors—1 to 5 hp—single or three phase—TEFC.
- Flows to 8 gallons per minute.

9811 FOR MORE DETAILS WRITE FOR BULLETIN 61-82.

VICKERS

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

For more details circle **NED-1033 K1** on enclosed inquiry slip

146 SCREW JACK MODELS TO CHOOSE FROM

THE WORLD'S MOST COMPLETE LINE!

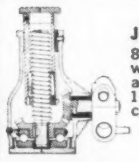
SIMPLEX SCREW JACKS

SCREW JACKS 4-WAY HEAD —19 MODELS
10 to 24 tons capacity. Ball bearing. Malleable Housing. Safety peep hole.

RATCHET HEAD —10 MODELS
20 to 24 tons capacity for close-quarter operation.

Other screw types: load binders, Push-and-Pull jacks, trench & timber braces, shoring jacks, Gear and Wheel Pullers.

PLANER JACKS —5 MODELS
2 to 8 tons capacity. 2¾" to 7" high. 1" to 4½" Lift. Swivel head & lock screw.



JOURNAL JACKS
8 models, three with aluminum alloy housings. 15 to 50 tons capacity.

SIMPLEX JACKS

Write for Mechanical Jacks Catalog

TEMPLETON, KENLY & CO.
2565 Gardner Road
Broadview, Illinois

For more details circle NED-1036 K1 on enclosed inquiry slip

For more details circle NED-1037 K1 on enclosed inquiry slip

Compact, low-cost

SINCLAIR-COLLINS PILOT VALVE

Diaphragm-operated S-C Model C-786 valves amplify instrument and cycle timer signals to pilot large valves and similar units. Provide near-instantaneous response . . . precise control . . . full ¼ in. pipe flow area . . . compact, only 5⅜ in. high. S-C quality, yet attractively priced. For air, steam, hot or cold water, or inert gas service, 2- and 3-way, 125 psi, tapped ¼ in. NPT.

for instrument or timer-actuated precision piloting

For more information, write for Bulletin 59-SC. Address The Sinclair-Collins Valve Company, Akron 11, Ohio, Dept. NED-1061

The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO

8190

For more details circle NED-1038 K1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Holding Successful Sales Meetings

FREE Bell & Gossett Co.—How to make the most of sales meetings by careful preparation and attention to details is explained in 12-page brochure entitled "A Guide for Successful Sales Meetings." Organizing a sales meeting is explained step by step, as well as the planning of precise purpose, content, personnel, and theme.

For more details circle NED-1039 K1 on enclosed inquiry slip

Industrial Lamps

FREE Radiant Lamp Corp.—Compiled as a guide for buyers of industrial lamps, 16-page Bulletin 107 features 116 different types of hard glass incandescent and mercury reflector lamps for indoor and outdoor lighting. Units range from 50 to 10,000 w. Almost every conceivable lighting application is covered. Candlepower curves are included.

For more details circle NED-1040 K1 on enclosed inquiry slip

Boring Heads

FREE Giddings & Lewis Machine Tool Co., Davis Div.—Davis boring heads for ⅜ to 50-in. diameter operations are reviewed with specifications and prices in 24-page Catalog D-530-A. These include heads with integral shanks as well as those for mounting on Davis boring bars. Covered is the new small diameter CF-6E head which provides 4 in. of uninterrupted radial tool feed in a boring range from 7/16 to 18-in. diameter.

For more details circle NED-1041 K1 on enclosed inquiry slip

Hand Tools for Pipe & Tubing

FREE Reed Mfg. Co.—Hand tools for pipe, tubing, and conduit covered in 16-page price catalog include six basic cutter lines ranging from tubing cutters of ⅛ to 1⅛-in. capacity to rotary cutters for 10 to 30-in. iron or steel pipe. Pipe and bolt threaders, chain and yoke tripods, pipe and chain wrenches, and long jaw and large capacity pipe vises are also shown.

For more details circle NED-1042 K1 on enclosed inquiry slip

Concrete Water Repellents

FREE A. C. Horn Companies—Powder and liquid integral concrete water repellents are subject of 6-page folder 56. Products are described as to use and general specifications relative to mechanical and job-mixed concrete, bonding of new concrete to old, monolithic concrete floors, and topping of concrete floors.

For more details circle NED-1043 K1 on enclosed inquiry slip

Multistation Shower Fixtures

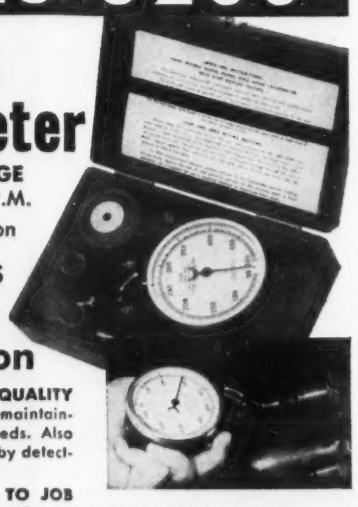
FREE Logan Mfg. Co.—26-page folio consists of three bulletins on multistation showers for industry. It offers ideas for shower room design employing Arvin wall-hung, Belanea back-to-back two-side service, and Space'anea free-standing central shower systems. All models have concealed piping.

For more details circle NED-1044 K1 on enclosed inquiry slip

JONES #3200

Hand Tachometer

BROAD RANGE
50 — 5,000 R.P.M.
with stop button



assures better production

HIGHER OUTPUT — QUALITY CONTROL obtained by maintaining proper machine speeds. Also helps avoid breakdowns by detecting irregularities.

CARRY IT FROM JOB TO JOB and keep it handy for quick, accurate tests. Choice of readings in R.P.M., F.P.M., etc.

GUARANTEED ACCURACY—superior construction, trouble-free. Unaffected by moisture, temperatures, electric currents.

Many other Portable and Stationary Models, indicating Speeds between 50 R.P.M. and 50,000 R.P.M., are available.

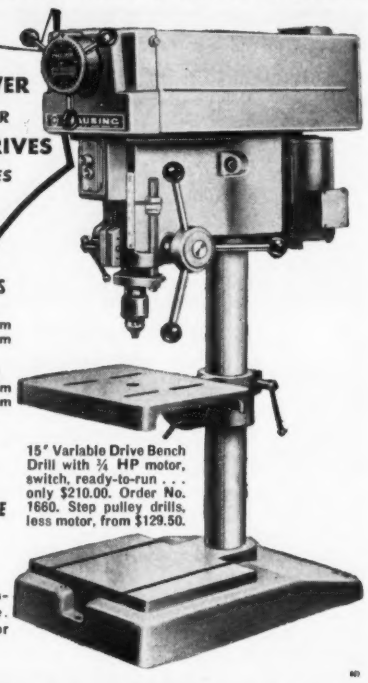
Write for catalog H

JONES MOTROLA CORP.
Stamford, Conn.

For more details circle NED-1045 K1 on enclosed inquiry slip

NEW CLAUSING HEAVY-DUTY DRILL PRESSES

WITH POSITIVE-POWER VARIABLE OR STEP PULLEY DRIVES
15" and 20" SIZES



NEW . . . DIAL SPEEDS with VARIABLE DRILLS
20-inch .....150-2000 rpm
15-inch .....330-4500 rpm

STEP PULLEY DRILLS
20-inch .....150-2000 rpm
15-inch .....260-5400 rpm

- *MACHINED and BALANCED PULLEYS*
- *LUBRICATED FOR LIFE BEARINGS*
- *GROUND TABLE and BASE*
- *READY-TO-RUN with MOTOR & SWITCH INSTALLED*

Way ahead in EVERY comparison you could make. See for yourself. Write for literature today.

15" Variable Drive Bench Drill with ¾ HP motor, switch, ready-to-run . . . only $210.00. Order No. 1660. Step pulley drills, less motor, from $129.50.

CLAUSING DIVISION OF ATLAS PRESS COMPANY

OUTSTANDING VALUES IN PRECISION MACHINES

10-115 N. PITCHER STREET, KALAMAZOO, MICHIGAN

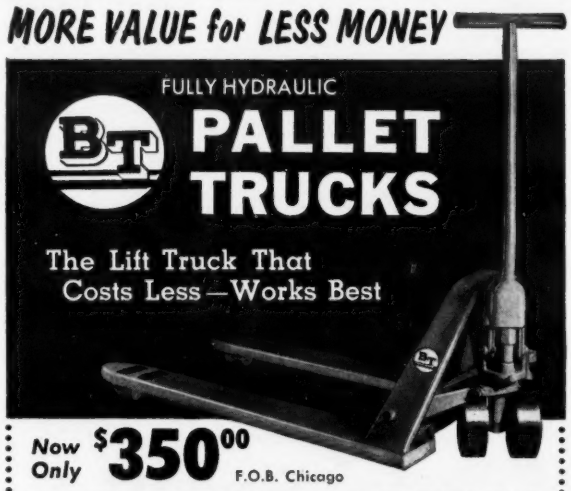
For more details circle NED-1046 K1 on enclosed inquiry slip

MORE VALUE for LESS MONEY

FULLY HYDRAULIC

BT PALLET TRUCKS

The Lift Truck That Costs Less—Works Best



Now Only **$350.00** F.O.B. Chicago

Extra rugged construction for Heavy Duty use. Precision built, BT fork-type PALLET TRUCKS are fully hydraulic, easy to use, highly maneuverable. Pivots 90°, both directions. SKF ball-bearing wheels, (available in steel, rubber or Bakelite). For single or double face pallets and skids. Lowered Height: 3¼" - 5" Lift. A real buy.

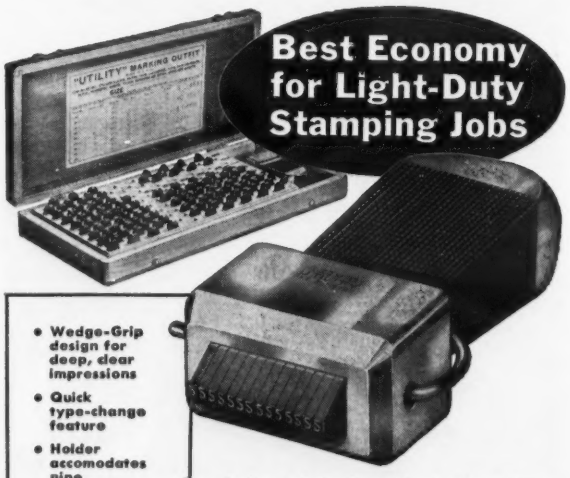
Model BT-24
2400 lb. Capacity.....$350.00
Model BT-44
4400 lb. Capacity.....$395.00

•WRITE — WIRE — PHONE

YOUR CHOICE OF SIZES IN EITHER MODEL:
Fork Widths: 20½" or 27"
Fork Lengths: 36", 42" & 48"
(Specify width, length and wheel type when ordering)
(Dealer Inquiries Invited)

INDUSTRIAL HANDLING EQUIPMENT CO.
1221-23 West Monroe • Chicago 7, Illinois • MOnroe 6-8554

For more details circle NED-1047 K1 on enclosed inquiry slip



Best Economy for Light-Duty Stamping Jobs

- Wedge-Grip design for deep, clear impressions
- Quick type-change feature
- Holder accomodates nine type sizes

Outfits include from 80 to 154 pieces of type—plus a holder made from non-spalling, non-mushrooming Mecco Safety steel.

Write for Bulletin UT . . . or for Instruction Sheet on use of steel stamps.

Mecco SAFETY **UTILITY MARKING OUTFIT**

A product of the Marking Device Industry

M. E. CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-1048 K1 on enclosed inquiry slip

NOW... Increase Machine Production ...Improve Worker Safety

New GLEASON
ECONOREEL
AUTOMATIC CORD TAKE-UP

Longer cord service, smoother action, improved operating convenience, less production downtime — are only a few advantages of New Gleason ECONOREEL on your electric powered hoists and other equipment-in-motion. Built to outlast ordinary reels, ECONOREEL has many unique features: new heavy duty 4-pole collector and brush assembly with interlocked collector rings, safety terminal block; replaceable spring motor with adjustable tension; adjustable holding dog; prelubricated bearings; two-way payout, plus many accessories. Heavy 20 Amp. capacity, for voltages to 550 AC, 250 DC; handles 2 to 4 conductor No. 18 to 12 A.W.G. cord up to 45 feet in length. *Write for new bulletin No. 613.*

Gleason Reel Corp
Dept. A, 800 Horicon St., Mayville, Wis.
Represented in Principal Cities

Cable Reels | Powertraks | Magnetic Drives | Hose Reels | Dockboards

▲ For more details circle NED-1049 K1 on enclosed inquiry slip ▲

if you use fabricated panels of wood or metal...

SEND FOR THIS FREE BOOKLET

—and discover new economies in production by the use of fabricated Masonite hardboards.

Full information on how these versatile hardboard panels offer substantial savings over wood or metal, give added value—at no greater cost—to your products.

For panels fabricated to your own specs or special panels for your own working operations, find out what Masonite hardboards and conveniently located fabricators can do for you.

Write to Masonite Corporation, Dept. NED-10, Box 777, Chicago 90, Ill.

MASONITE
shows the way

Masonite is a registered trade-mark of Masonite Corporation® —manufacturer of quality panel products for building and industry.

▲ For more details circle NED-1050 K1 on enclosed inquiry slip ▲

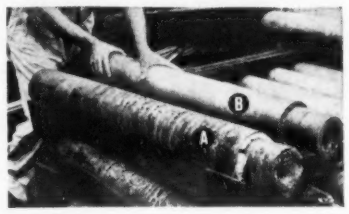
NEW MATERIALS AND PROCESSES

GRAPHITE LUBRICANT
in self-spraying container

Suitable for anything that slips and slides, Graphokote 220 industrial colloidal graphite dry-film lubricant is packaged in an aerosol spray container. It is used typically on fork lift trucks, sliding doors, winch drums, elevator guides, bell and chain guides, and overhead crane rails. Lubricant withstands heavy pressures, will not pick up dust or dirt, and is unaffected by temperature changes. • **Joseph Dixon Crucible Co.**, Wayne & Monmouth Streets, Jersey City 3, N. J.

▲ For more details circle NED-1052 K1 on enclosed inquiry slip ▲

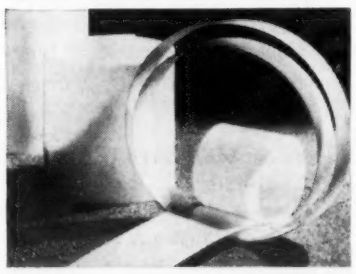
ALLOY FLAW PREVENTIVE
added to stainless steel ingots



Merely added to the mold before metal is poured or submerged directly in the ladle, Smelter-Aid prevents flaws and reportedly produces improved stainless steel and other alloy ingots. It purges out oxygen and hydrogen, thus minimizing scalding and pitting. It is offered in 4-oz self-dissolving plastic bags for 500 lb of metal being poured or in a ring for ladle addition. • **Crane Packing Co.**, Dept. ND-5, 6400 Oakton St., Morton Grove, Ill.

▲ For more details circle NED-1053 K1 on enclosed inquiry slip ▲

ACETYL RESIN STRIP
0.020-0.070 in. thick, 2-8 in. wide



DuPont Delrin 150 acetyl resin is now offered in strip form for punching out gaskets, washers, closure liners, and similar items. It is supplied in 0.020 to 0.070-in. thick and 2, 4, 6, and 8-in. wide coils. Other uses include conveyor-line wear strips and dead plates. The thermoplastic has a hard, smooth surface with low coefficient of friction, even unlubricated. Surface remains virtually unchanged over a wide range of temperatures, bearing loads, and relative surface speeds. • **A. L. Hyde Co.**, Grenloch, N. J.

▲ For more details circle NED-1054 K1 on enclosed inquiry slip ▲

How To REDUCE WIRE RE-ROPING COSTS

Write for this catalog

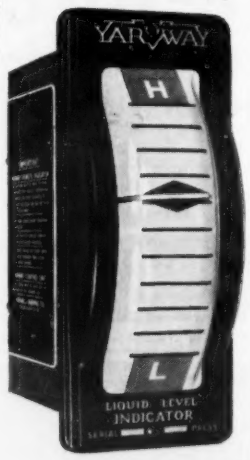
In it, you'll find fittings for fastening wire rope, cable, or strands so they hold fast. Regardless of the type you choose, all effectively dampen vibration stresses—reduce frequency of re-roping—and eliminate loose or frayed wire troubles. Easily installed with ordinary tools. Highest holding strength of known fittings.

Write today for your copy . . . no obligation.

Electroline PRODUCTS
THE SUPERIOR SWITCHBOARD & DEVICES COMPANY
Box 590, Canton 1, Ohio • In Canada: Box 158, Brampton, Ont.

▲ For more details circle NED-1055 K1 on enclosed inquiry slip ▲

ARE YOUR LIQUID LEVEL READINGS ON THE LEVEL?

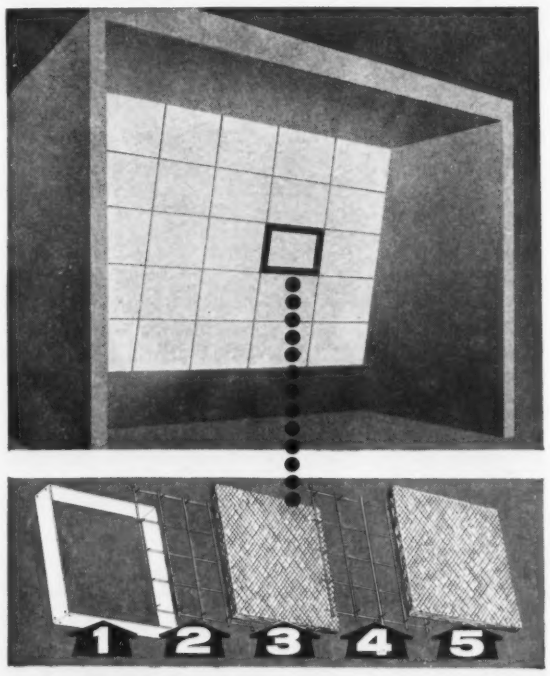


YARWAY REMOTE LIQUID LEVEL INDICATORS bring hard-to-see or distant level readings down to your level—at convenient eye height, instantly and accurately. Readings are right because the indicating mechanism is operated by the liquid itself. Readings are bright because of brilliant illuminated wide-vision dial.

More than 10,000 satisfied users — on boilers, feedwater heaters, storage tanks, etc. Free catalog. Write YARNALL-WARING CO., 131 Mermaid Ave., Phila. 18, Pa.

YARWAY

▲ For more details circle NED-1056 K1 on enclosed inquiry slip ▲



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

RP PAINT ARRESTORS

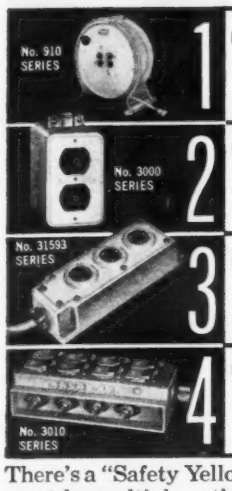
UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation
Dept. 32-J, MADISON 1, WISCONSIN

▲ For more details circle NED-1051 K1 on enclosed inquiry slip ▲

COMPLETE FOR YOUR **PORTABLE** POWER NEEDS



1 **PORTABLE CORD STORAGE REELS** Four handy "U" blade 15 Amp. receptacles or, two styles of locking type receptacles.

2 **PORTABLE OUTLET BOXES** For portable or pendant power needs. Ideal for use in tool kits and cases.

3 **MULTI-TAP WITH THREE RECEPTACLES** Made for industrial plant portable power. Available with various types of receptacles.

4 **NEW HEAVY DUTY MULTI-TAP** For four or eight outlets. Available with weatherproof covers, provision for fusing if required.

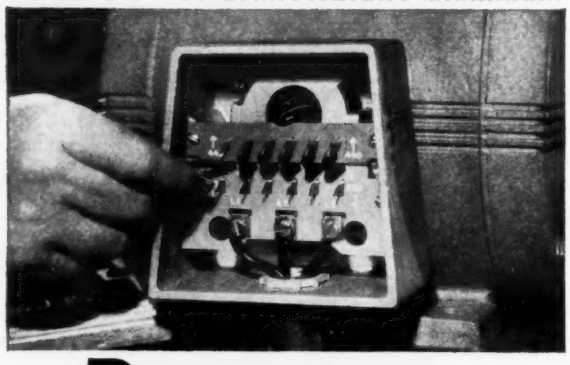
There's a "Safety Yellow" device to meet every requirement for multiple outlets, for tools, temporary lighting, emergency maintenance use, etc. All rubber parts are "Safety Yellow" NEOTEX.

Write for your free booklet—Dept. 110 988

DANIEL WOODHEAD COMPANY
15 N. Jefferson St., Chicago 6, Illinois

▲ For more details circle **NED-1058 K1** on enclosed inquiry slip ▲

NEW Franklin standard motors of LIGHTWEIGHT aluminum



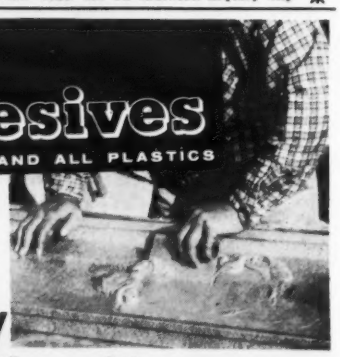
Pre-wired ON OUR ASSEMBLY LINE, NOT YOURS!

Comes pre-connected to your specifications. (All stab connectors up-440 V. All connectors down-220 V!) Just connect the three line leads and the new Franklin motor is ready to run. See it! And write Department NED-10 for free color brochure.

Franklin Electric Co., Inc.
BLUFFTON, INDIANA

▲ For more details circle **NED-1059 K1** on enclosed inquiry slip ▲

ARA Adhesives
FOR ALL METALS AND ALL PLASTICS



NEW room-temp curing epoxy — spreads like cold cream!

Now – save application time, slash material costs, with new solvent-free epoxy adhesive, BONDMASTER M688:

- Smoothly spreadable with trowel, spatula, etc.
- Non-sag, even while curing. Eliminates all clean-up.
- Cures at room temp. in about 24 hrs. or in as little as 10 min. at 250°F
- Eliminates costly presses . . . contact pressure sufficient.
- Solvent-free . . . no wait for evaporation . . . no danger of attack on plastics.

Bonds ALL metals and just about *any* plastics – rigid, foamed, or flexible.

Write for detailed Data Sheets and Technical Article reprints.

RUBBER & ASBESTOS CORP.
241 BELLEVILLE AVE., BLOOMFIELD, N. J.

▲ For more details circle **NED-1060 K1** on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Miniature Instrument Ball Bearings

FREE Federal-Mogul-Bower Bearings, Inc., Microtech Div.—Precision miniature and instrument ball bearings in sizes from 5/32 to 5/8 in. OD are covered in catalog. They include flanged, single and double shielded, and extended inner ring bearings. Details on function, tolerances, fitting practices, and calibration are given.

▲ For more details circle **NED-1061 K1** on enclosed inquiry slip ▲

Warning Horns & Systems

FREE Falcon Alarm Co.—Falcon warning horns and systems are adaptable to any warning system requirement. Warning signals in the 123-128 decibel range are possible. Illustrated 4-page folder FS-761 describes system components and diagrams various system set-ups.

▲ For more details circle **NED-1062 K1** on enclosed inquiry slip ▲

Drilling & Tapping Units

FREE Hypneumat, Inc.—Information provided in illustrated 32-page Bulletin 6100 on high speed automatic drilling and tapping units covers specifications, drill thrusts, tapping and threading, typical circuits, and applications. These easily set-up units, featuring only two moving parts in the basic design, can drill holes up to 25 in. deep.

▲ For more details circle **NED-1063 K1** on enclosed inquiry slip ▲

Synthetic Fiber Felts

FREE American Felt Co.—Synthetic fiber felts detailed in 8-page Technical Bulletin 4-61 are available in pad to high density filter constructions. Polypropylene, Teflon, Dacron, Dynel, rayon, Viscose, Orlon, and nylon types in the Feutron line are covered. General, physical, chemical, and mechanical properties are tabulated.

▲ For more details circle **NED-1064 K1** on enclosed inquiry slip ▲

Liquid-Tight Wiring Conduit

FREE Anaconda American Brass Co., Anaconda Metal Hose Div.—Diameters, weights, and other information useful for specifying Sealtite flexible, liquid-tight wiring conduit are furnished in 4-page Bulletin S-544. U.A., C.S.A., extra flexible, and hot-cold types are covered.

▲ For more details circle **NED-1065 K1** on enclosed inquiry slip ▲

Miniature Screw Threads & Standards

FREE J. I. Morris Co.—Condensation of the new Unified Miniature Screw Threads and Miniature Screw Standards is provided in Catalog 98, an essential reference for anyone using small screw threads. Standards represent the first American standardization of screw threads smaller than 0-80 and covers sizes as small as 0.0118-318.

▲ For more details circle **NED-1066 K1** on enclosed inquiry slip ▲

Rust Inhibiting Papers

FREE Marvellum Co.—Wide range of VPI (vapor phase inhibiting) papers are shown in new sample book. This paper gives off a vapor that protects metal products in shipment and storage. VPI papers with polyethylene are included.

▲ For more details circle **NED-1067 K1** on enclosed inquiry slip ▲

Precision Nonferrous Casting

FREE Atlantic Casting & Engineering Corp.—18-page booklet on plaster mold and Planar investment casting explains how both processes can be combined to overcome important limitations of either process alone. Engineering table gives specifications and properties of eight different nonferrous alloys.

▲ For more details circle **NED-1068 K1** on enclosed inquiry slip ▲

Material Handling Equipment

FREE Webster Mfg., Inc.—Systems for unloading, feeding, conveying and elevating, parts and package handling, processing, and bulk materials conveying are subject of 6-page descriptive folder FL-661. It points up broad range of components and special products developed by this firm.

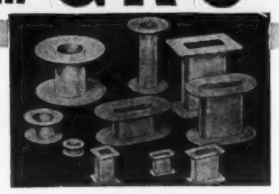
▲ For more details circle **NED-1069 K1** on enclosed inquiry slip ▲

Ultra-High Strength Steel

FREE Vanadium-Alloys Steel Co.—Tensile strength values above 360,000 psi with safe ductility are exhibited by Vascojet M-A ultra-high strength steel described in 20-page brochure. Steel is applicable to aircraft and missile, bearing, and fastener uses and will maintain its high strength at up to 1000° F.

▲ For more details circle **NED-1070 K1** on enclosed inquiry slip ▲

NEW NYLON & THERMO-PLASTIC parts from GRC



Economically mass produced on fully automatic patented machines, GRC nylon parts are available from stock in many sizes and types. GRC uses single cavity, techniques, molds in one automatic cycle, gets accurate, uniform parts, ready for immediate use.

These advantages, these economies, apply too, to tiny made-to-order parts to your specifications . . . in quantities of 25,000 to many millions. Write for bulletin describing GRC's unique method for injection molding small plastic parts or send prints for quotation. Ask about our zinc alloy die castings, too!

GRC NYLON COIL BOBBINS

Available from stock in a wide range of shapes and sizes from a minimum of 1/4" diam. x 11/64" long up to 1 1/16" diam. x 1 1/16" long—round, square, rectangular and oval. Irregular shapes and special materials made to order.

Gries one-piece nylon molding speeds winding . . . makes the most of nylon's outstanding properties.

Check Gries for your bobbin needs—ask for standard stock sheet or quote on size, shape and material to your order.

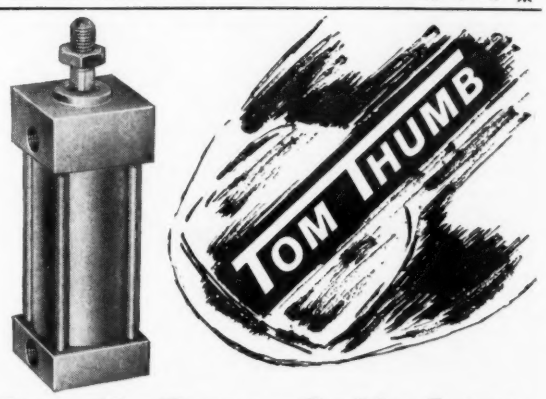
Write, wire, phone now for prices.

And NEW GRC Fastener CATALOG

NO SIZE TOO SMALL. Maximum: 2" long —0.3 oz.

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y. • NEw Rochelle 3-8600

▲ For more details circle **NED-1071 K1** on enclosed inquiry slip ▲



Small Bore Cylinders

AIR to 200 psi . . HYDRAULIC to 2000 psi

Tom Thumb delivers top performance, because of its quality construction features which include stainless steel piston rods; noncorrosive barrel; steel head and cap; piloted construction throughout for smooth operation. 3 bore-sizes available in single or double acting, single or double rod end, or tandem type. Designed to meet your needs for small heavy-duty cylinders. Above all, Tom Thumb cylinders are built to last.

FROM STOCK 3/4" . . 1" . . 1 1/8" BORES 8 MOUNTING STYLES IMMEDIATE DELIVERY

NEW DESIGNERS' TOM THUMB BROCHURE

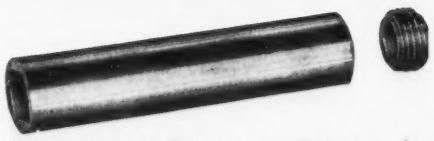
SPECS. DWGS. DIMS. DATA

Mail card or letter today— you'll like this Tom Thumb helper.

TOM THUMB DIVISION
PNEUMATIC-HYDRAULIC DEVELOPMENT CO.
FORT WAYNE, INDIANA

▲ For more details circle **NED-1072 K1** on enclosed inquiry slip ▲

***How* SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!**



One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES: 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., SOUTHFIELD, MICH.

▲ For more details circle **NED-1073 K1** on enclosed inquiry slip ▲

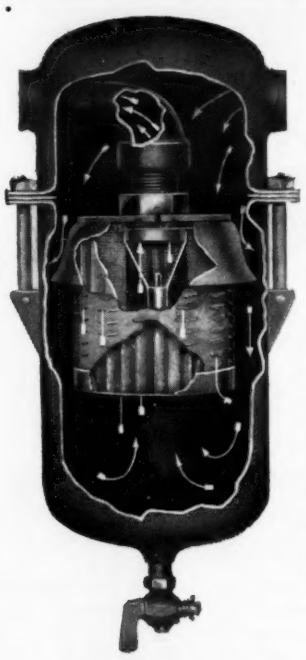
Write for Bulletin DF-110R Address: Dept. NED 1061 Bellows-Valvair Akron 9, Ohio

Attaches to the star wheel shaft of any drill press. A touch on the handle sends the drill rapidly to the work, hydraulically feeds through the work, automatically returns to start position. Air-powered, electrically controlled. Feed adjustable to meet needs of any tool working in any material.

994-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-1074 K1 on enclosed inquiry slip

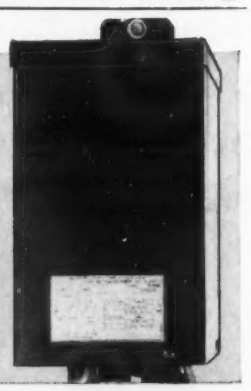


Protect air-operated equipment from impurities. Specify Dollinger Staynew Pipe Line Filters to eliminate pipe scale, dust, dirt, and condensate. Will operate in temperatures from −400°F to +1800°F. Simplified construction allows easy inspection for media cleaning or replacement. Economical, highly efficient. Consult your Dollinger representative for more details. Or, write for Bulletin 200. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

PROTECTOMOTOR STAYNEW FILTERS DOLLINGER

For more details circle NED-1075 K1 on enclosed inquiry slip

WAGNER
Dry-Type
General Purpose
Transformers



These small size, totally enclosed transformers have core and coils imbedded in solid epoxy compound to protect them from dirt and moisture and to reduce sound level to a minimum. Use anywhere to improve voltage regulation . . . even in quiet areas in offices and hospitals. Install indoors in any position at any angle, or outdoors if desired. Type AE single phase transformers are built to ASA and NEMA standards in 1 to 10 kva ratings. Contact the nearest Wagner branch or distributor for full information.

Wagner Electric Corporation
Manufacturers of LOCKHEED® Products
6435 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A. WT61-15

For more details circle NED-1076 K1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

JACKETED PIPE INSULATION
seal band eases bend fabrication

Job-site fabrication of elbows, turns, and bends in the Metal-On prejacketed pipe insulating system is simplified with the Miter-Seal band. Metal-On jacketed insulation consists of Thermobestos isolation barrier with a weatherproof aluminum covering, prefabricated in 3-ft sections for snapping over pipe and securing with an aluminum snap strap. Miter-Seals allow making elbows and bends from straight runs of Metal-On, using an ordinary saw and a banding wrench and following precise measurement and angle cutting instructions. Insulation and bands are available for pipe sizes from ¾ to 24 in., with Thermobestos ranging from 1 to 3 in. thick. • **Johns-Manville,** 22 E. 40th St., New York 16, N. Y.

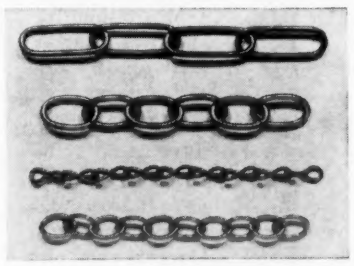
For more details circle NED-1077 K1 on enclosed inquiry slip

RESIDUAL INSECTICIDE
in 16-oz aerosol spray can

Odor controlled Residual Insecticide in handy 16-oz aerosol spray can kills both resistant and nonresistant strains of roaches, ants, flies, waterbugs, silverfish, wasps, spiders, chiggers, brown dog ticks, scorpions, and others. The general purpose insecticide contains the same immediate knock-down and prolonged killing power provided by Airkem's bulk Residual Insecticide —a combination of Diazinon plus synergized pyrethrins. There is no lingering offensive odor. • **Airkem, Inc.,** 241 E. 44th St., New York 17, N. Y.

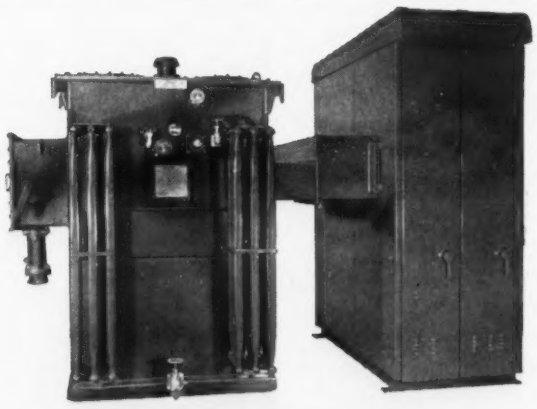
For more details circle NED-1078 K1 on enclosed inquiry slip

CHAINS
have various finishes



Plain polished steel, zinc plated, or such finishes as antique copper, polished brass, chrome, English bronze, and weathered brass are available on a variety of chains. They range from ½-in. "jack" chains for use in toys and other products, to ¾ and 1-in. decorative chains for lighting fixtures and other uses. • **Universal Metal Chain Co.,** 75 Clymer St., Brooklyn, N. Y.

For more details circle NED-1079 K1 on enclosed inquiry slip



Non-inflammable
liquid-filled unit substation

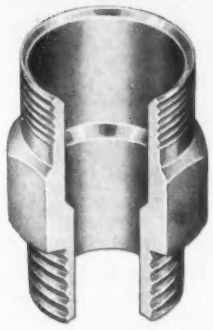
Suitable for use in dusty or explosive atmospheres—indoors or outdoors without fireproof vaults. Transformer ratings from 112½ to 2000 kva, 3-phase, 60-cycle. High voltages from 2400 to 13800; low voltages of 240, 280Y/120, 480 or 480Y/277.

Wagner Electric Corporation
Manufacturers of LOCKHEED® Products
6435 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A. WT61-16

For more details circle NED-1080 K1 on enclosed inquiry slip

COLD IMPACT EXTRUSIONS

In steel, brass, aluminum and stainless steel



High speed automatic equipment, designed and built by Jacobson, for cold impacting and secondary operations, has resulted in substantial economies in high production items.

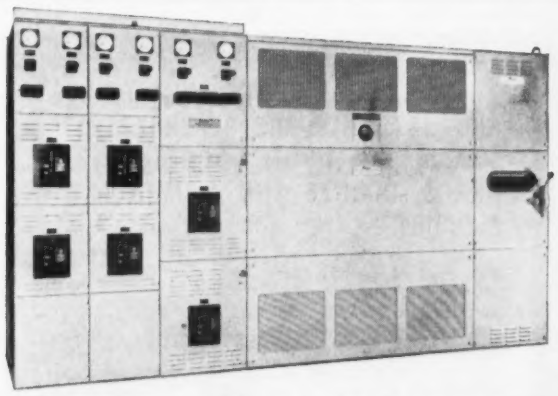
Impacted Fitting • 67% saving

JACOBSON NUT MFG. CORP.
Kenilworth, New Jersey

For more details circle NED-1081 K1 on enclosed inquiry slip

Available in Stainless Steel, Brass, Aluminum and Steel
JACOBSON NUT MFG. CORP.
KENILWORTH, N.J.

For more details circle NED-1082 K1 on enclosed inquiry slip

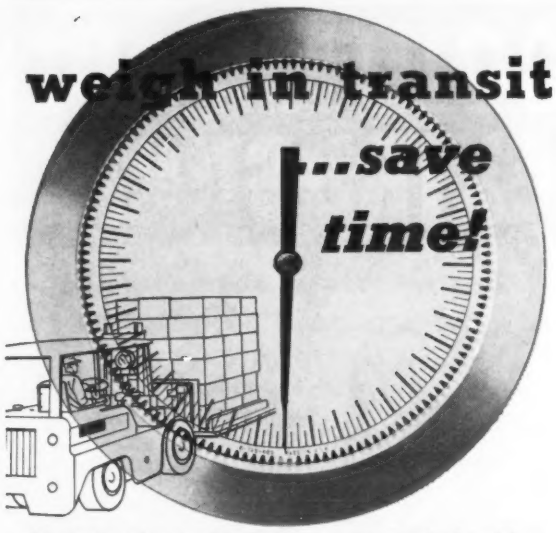


Dry-Type Unit Substation

Ventilated dry-type shown is suitable for indoor use only, in well-ventilated reasonably dry and dust-free areas. *Sealed* dry-type also available. Both ventilated and sealed come in transformer ratings from 112½ to 2000 kva, 3-phase, 60-cycle. High voltages from 2400 to 13800; low voltages of 240, 280Y/120, 480 or 480Y/277.

Wagner Electric Corporation
Manufacturers of LOCKHEED® Products
6435 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A. WT61-17

For more details circle NED-1083 K1 on enclosed inquiry slip



Eliminate trips to the scale, prevent overloads with a Martin-Decker Lift Truck Weight Indicator in the cab!

Easy to install, easy to set, easy to read! Full tare adjustment to manually zero out weight of forks, pallets, boxes, etc. Save more than its low cost in a **single inventory!** Save 20% to 40% (actual time-study records prove it) on labor and truck wear due to needless trips to a stationary scale. Eliminate errors in receiving. Get what you pay for by double-checking on the lift truck weight indicator while material is in transit to or from loading dock or warehouse. Write for applications to **your** operations! Ask for Technical Brochure T410 for full description.

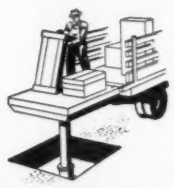
MARTIN DECKER Precision Pressure Instruments Testing—Weighing—Load and Force Measurement

MARTIN-DECKER CORPORATION • 3431 Cherry Avenue, Long Beach 7, California

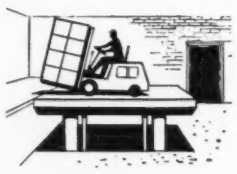
▲ For more details circle **NED-1084 K1** on enclosed inquiry slip ▲

Lift it the low-cost way

WITH DEPENDABLE HYDRAULIC POWER

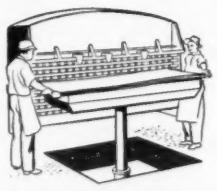


Load trucks from floor level . . . no dock needed



Move traffic from one floor level to another

Rotary Levelator Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.



Feed machines, perform other industrial lifting jobs

Rotary® Levelator® Lifts

ROTARY LIFT COMPANY

Division of the Dover Corporation

1092 Kentucky, Memphis 2, Tenn. • Chatham, Ont.

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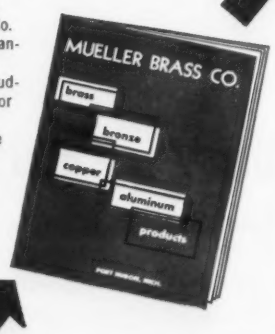
THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.



314

Please send me Mueller Brass Co. Manual No. FM 3017.

Name_____

Firm_____

Address_____

City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

NEW LITERATURE and CATALOGS

Gear & Pinion Combinations

FREE Gries Reproducer Corp.—More than 200 one-piece gear and pinion combination of die cast zinc alloy are detailed technically in revised 10-page Catalog 3001-C. Applications include appliance timers, clock works, business machines, speed reducers, meter counters, and other low torque gear trains.

▲ For more details circle **NED-1086 K1** on enclosed inquiry slip ▲

Thread Rolls

FREE Detroit Tap & Tool Co.—Bump and straddle type thread rolls carried in stock, or which can be manufactured are tabulated in 8-page Bulletin E-61 stock and price list. It points up the advantages of thread rolling and describes equipment used to do the job.

▲ For more details circle **NED-1087 K1** on enclosed inquiry slip ▲

Math Tables & Formulas

Trig, log, antilog, and log-of-trig functions 6-place tables are all listed in the 192-page Vest-Pocket Library Book. Eight pages of formulas and eight pages of interpolation, as well as other information, are included. Available for $1 from **Ottenheimer Publishers, Inc.**, 4805 Nelson Ave., Baltimore 15, Md.

▲ For more details circle **NED-1088 K1** on enclosed inquiry slip ▲

Metal Letters & Figures

FREE H. W. Knight & Son, Inc.—Company's expanded line of metal letters, figures, trademarks, and monograms, including those formerly available from Canton Products, are illustrated and described in 24-page Catalog 30. Line now comprises 59 different styles of letters and figures, available in a variety of metals.

▲ For more details circle **NED-1089 K1** on enclosed inquiry slip ▲

Successful Supervision

The supervisor is still the key to efficiency—this is the theme of 84-page manual "Successful Supervision—Through Better Employee Relations." Manual covers three basic areas: the right man in the right job, on the job relationships, and the supervisor and the law. Last section reflects all 1961 changes in the Social Security law. Available for $1.50 from **Motivation, Inc.**, Springdale, Conn.

▲ For more details circle **NED-1090 K1** on enclosed inquiry slip ▲

X-Ray Analytical Instrumentation

FREE Philips Electronics & Pharmaceutical Industries Corp., Philips Electronic Instruments Div.—28-page catalog on "Norelco X-Ray Analytical Instrumentation" provides data on seven key instruments for research and production control. Covered are electron probe micro-analyzers, automatic and 100-kv constant potential x-ray spectrographs, portable x-ray spectrometers, standard vacuum x-ray spectrographs, x-ray diffractometers, diffraction units, and cameras.

▲ For more details circle **NED-1091 K1** on enclosed inquiry slip ▲

Servo Engineer's Handbook

The fourth printing of the "Servo Engineer's Handbook" features 61 diagrams and 65 major equations in 128 pages. This comprehensive guide to the application of servomechanisms deals with individual components and how to use them. Over-all treatment is practical rather than classical. Available for $3 from **Daystrom, Inc.**, Transicoil Div., Worcester, Pa.

▲ For more details circle **NED-1092 K1** on enclosed inquiry slip ▲

Lab Instruments & Equipment

Over 18,000 Cenco instruments and equipment for research, educational, and industrial laboratories are shown in the 1008 illustrated pages of the J-300 General Catalog. Sections cover balances, lab apparatus and glassware, gas and air pollution analysis, pH measurement, industrial testing, spectrophotometry and colorimetry, refinery supply specialty, bacteriological, school science, microscope, chemistry, chromatography, high vacuum, and constant temperature devices. Available by writing on company letterhead to **Central Scientific Co.**, 1700 W. Irving Park Rd., Chicago 13, Ill.

▲ For more details circle **NED-1093 K1** on enclosed inquiry slip ▲

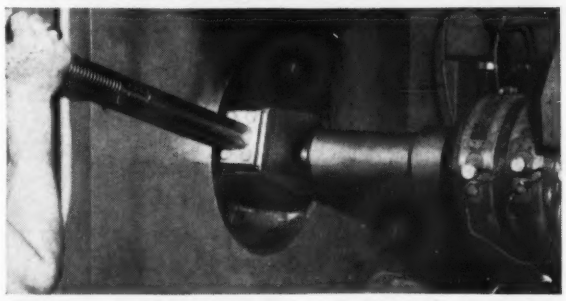
Shop & Handling Equipment

FREE Vince Basnik Co., Material Handling Div.—Work benches and accessories, tool cabinets, stands, benches, stock carts and trucks, dollies, drum lifters, swivel hoists and hooks, and parts cabinets and bins are among equipment covered in 66-page catalog entitled "Are These Your Plant Problems."

▲ For more details circle **NED-1094 K1** on enclosed inquiry slip ▲

SWENCH® MANUAL IMPACT WRENCH

is a wrench like no other — and will work where no other can. Loosens frozen nuts and bolts in seconds . . . tightens with precise accuracy every time. Completely portable — safely handles more bolt sizes than any comparable power wrench. Costs less. Read how it saves.



CUTS DOWNTIME—SAVES $4000

In plastic plants, the hex nuts that hold injection nozzles in place have a way of freezing tight. One plant figured on 36 hours downtime to sledge them loose. Power impact wrenches could not be used: not enough room. With the hand operated SWENCH — seven impacts and the first nut came free. Thirty minutes and the entire job was done — at a saving of $4,000! SWENCH works anywhere — gives you more power with greater safety. Sizes from ½" to 1½" square drives. See your local distributor or write for free booklet.

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MARQUETTE DIVISION
CURTISS-WRIGHT CORPORATION
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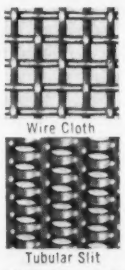
FINEST TO THE COARSEST in perforated metals and wire cloth

FERGUSON PERFORATING & WIRE CO.

Specialists in the manufacture of.....

★ Perforated Metals (all sizes and perforations)
★ Wire Cloth
★ Tubular Slit
★ Filter Leaves
★ Centrifugal Screens (stainless steel for chemicals)
★ Centrifugal Backing Wire
★ Juice Strainer Screens (perforated or woven)
★ Metal Filter Cloth



Write For Our Catalog

FERGUSON PERFORATING & WIRE CO.
132-140 Ernest Street, Providence 5, Rhode Island

▲ For more details circle **NED-1096 K1** on enclosed inquiry slip ▲

Now You Can Have Overload and Overtravel Protection

Saginaw Adjustable TORQUE LIMITER

causes Saginaw ball bearing screw or ball nut to rotate freely (keeping load stationary) whenever a predetermined load or travel limit is reached. The Adjustable Torque Limiter combines high efficiency actuation with new protective, performance and positioning advantages.

Write Today For New Data Book

Saginaw ball bearing SCREWS

SAGINAW STEERING GEAR DIV.
GENERAL MOTORS CORP. SAGINAW, MICH.

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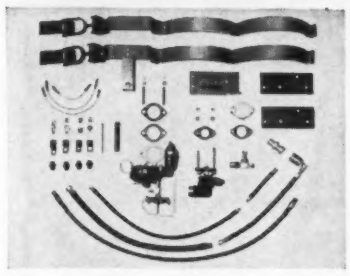
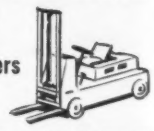
BEAM LP-GAS CONVERSION SYSTEMS



CLARK—
HYSTER—
TOWMOTOR—
YALE & TOWNE
and all others



Whatever the make and model, whatever the brand and size of engine — BEAM'S ready-to-install systems have everything you need to convert your fork lifts and tow trucks to clean-burning, inexpensive LP-Gas.

FIRST WITH THE FINEST

For over 20 years Beam has been "out-front" with the latest ideas in LP-Gas Carburetion Equipment. You'll find that Beam's line of carburetors, regulators, filters, and installation systems not only do the job better and faster, but they are also much more compact and easier to install.

CONVERT WITH BEAM Write today for complete details and specifications for your equipment.

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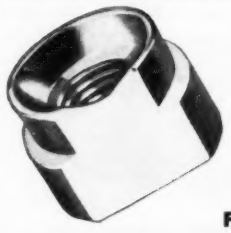
NEW YORK 96-10 Linden Blvd., Ozone Park 16, Queens
TENNESSEE 2020 Airways Blvd., Memphis 4
ILLINOIS 1414 S. Michigan Ave., Chicago 5

For more details circle NED-1098 K1 on enclosed inquiry slip

DECKER CLINCH NUTS



COLD-FORMED

Manufactured in a broad range of sizes to meet and speed every type of assembly operation. They are faster, easier to install . . . accurate and dependable. Cold-heading process affords extra-strong neck for clinching attachment. Double flat or plated clinch nuts are available.

Whether you use cold-headed Pipe Plugs, Weld Nuts, Machine Screws, Lag Bolts, Hex Nuts, Wing Nuts, Washers or special fasteners, Decker fasteners will add new efficiencies and economies to your manufacturing operations.

Write or phone... for sample fasteners as well as your copy of Decker's complete new catalog.

DECKER NUT
MANUFACTURING CORPORATION
1900 N. Clark Road, Albion, Michigan

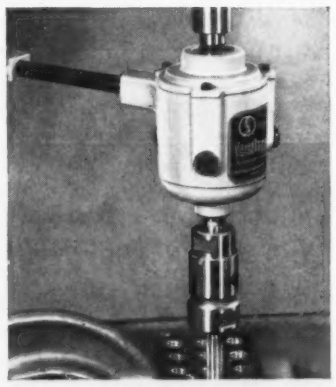
For more details circle NED-1099 K1 on enclosed inquiry slip

EQUIP YOUR DRILL PRESS WITH A

Supreme VersaTAPPER

. . . new tapping attachment that gives more capacity . . . more production

The new Supreme VersaTAPPER is a drill press tapping attachment that offers maximum efficiency at lowest initial cost. It's the ideal tool for tapping all holes from No. 10 thru ½". (The full capacity range is 0 to ⅝".) Simple and safe to operate. Two models:— No. 6100 with straight shank for chucking; No. 6200 with Morse taper arbor. Both models include a Supreme Accutap Tap Chuck.



Ask your distributor for a VersaTAPPER demonstration. Write for literature.

$63 COMPLETE

SUPREME PRODUCTS CORPORATION
2222 S. Calumet Ave., Chicago 16, Ill. PRECISION A-S-R PRODUCTS

For more details circle NED-1100 K1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

EPOXY FLOOR COATING
penetrates, seals, and hardens

Concrete, wood, magnesite, cork tile, linoleum, and painted floors are protected against traffic wear and deterioration by Sealaway, a single-package epoxy coating in solution form. Applied like paint, it penetrates deeply, fills pores and voids, hardens concrete, toughens wood, and reinforces flooring to form a hard surface. Coating stops concrete dusting; prevents splitting and rotting of wood; seals out water, dirt, and oil; prevents staining; and protects against disintegration from soaps and harsh cleaners. The clear, light amber colored liquid covers 200-400 sq ft per gallon and is offered in 1 and 5-gal pails and 55-gal drums. • **Hallemite Mfg. Co.**, 2446 W. 25th St., Cleveland 13, Ohio.

For more details circle NED-1101 K1 on enclosed inquiry slip

LIQUID BRIGHT DIP
for cadmium plated work

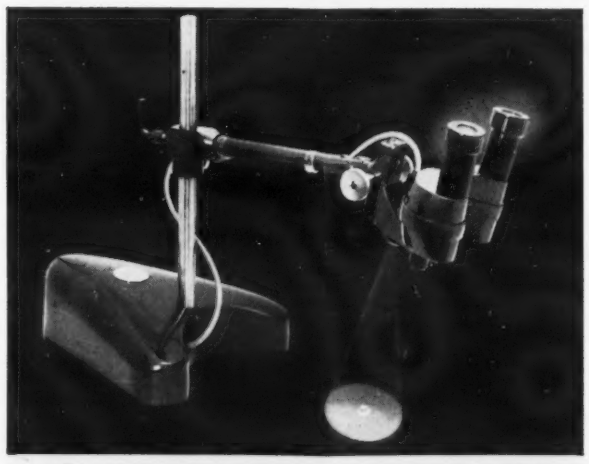
A bright, clear finish is produced on cadmium barrel-plated or rack-plated work with Iridite No. 4L-1 bright dip. The true single dip rinses easily and will stand transfer time of 30 to 40 sec without cloudiness or staining. It provides excellent corrosion protection and retains good solderability, even after long storage periods. • **Allied Research Products, Inc.**, 4004 E. Monument St., Baltimore 5, Md.

For more details circle NED-1102 K1 on enclosed inquiry slip

HIGH TEMPERATURE PAINT
withstands 2500° F after cure

Applied by brush or spray, same as ordinary paints, Pyromark high temperature paint will adhere tenaciously at elevated temperatures, often to the limit of the base metal. After a brief cure at 400 to 600° F, it will withstand 2500° F and, in some cases, even higher heats. Paint has high heat shock resistance after curing, and is made in black, white, gray, maroon, blue, and green colors. • **Tempil Corp.**, 132 W. 22nd St., New York 11, N. Y.

For more details circle NED-1103 K1 on enclosed inquiry slip



STERIMAG

Crystal sharp stereoscopic image
Built-in focusable light source
Long 7" working distance — wide field
Stable base with universally adjustable mounting
Fixed magnification 10X and 20X models each **$165**

COOKE TROUGHTON & SIMMS INCORPORATED
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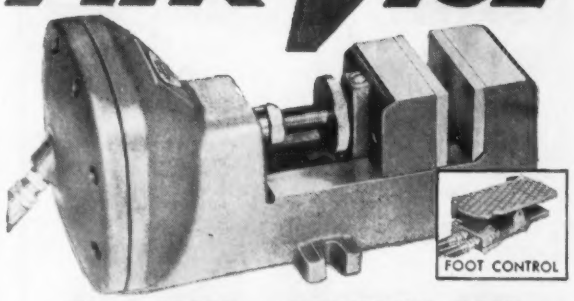
IN CANADA: 77 GRENVILLE STREET, TORONTO

For more details circle NED-1104 K1 on enclosed inquiry slip

Speedy AIR VISE

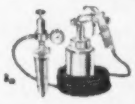


HIGH SPEED · POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY AIR REGULATOR Regulates pressures 0 to 140 lbs. No. 622 **$7.25**

SPEEDY AIR FILTER Assures clean, oil-free air. No. 140 **$4.00** Slightly higher West Coast

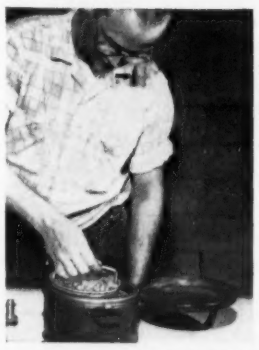


SPEEDY UNIT Production spray unit with Ext. Mix Gun. No. 705 **$26.50**

Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35
AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

For more details circle NED-1105 K1 on enclosed inquiry slip

REDUCE COSTS of Small Parts Cleaning with PROTECTOSEAL Bench Parts Washer



Protectoseal Bench Parts Washers may be used in 2 ways to save time and labor in cleaning small parts at the work bench or table: With removable parts basket for cleaning quantities of small parts (left); without basket for immersing larger pieces in solvent or for saturating wiping cloths or swabs. Spring mounted perforated metal fire baffle and dasher prevents entry of fire into can, permits solvent to drain from parts. Hinged cover reduces evaporation losses. Solvent capacity: 3 pints. 7½" dia. x 3⅞" high.

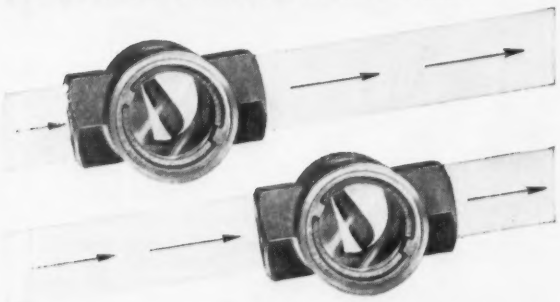
Write for catalog illustrating many time and labor saving products for handling flammable liquids and solvents.

23

THE PROTECTOSEAL COMPANY
1964 South Western Avenue • Chicago 8, Illinois

For more details circle NED-1106 K1 on enclosed inquiry slip

FLO-EYE® FLOW INDICATORS PROVIDE LOW COST PROTECTION



The new low-priced SK Flo-Eye® Indicator serves all normal sight-flow functions, and has most of the features of more costly units. By permitting a visual examination of the fluid in pipelines, the Flo-Eye can prevent damage to expensive process equipment.

For details—ask for Bulletin 18W.

Schutte and Koerting COMPANY
INSTRUMENT DIVISION
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
EXPORT DEPT.: 1505 Race Street, Philadelphia 2, Pa., U.S.A.

For more details circle NED-1107 K1 on enclosed inquiry slip

NEW DAYTON SAFETY TACH

PHOTOELECTRIC TACHOMETER

- PUSH-BUTTON OPERATED
- SELF-CONTAINED
- BATTERY POWERED
- TRANSISTORIZED
- RANGE 0-12,000 RPM*

IMMEDIATE DELIVERY

ONLY $95.00

Batteries $4.50 Extra

FOR GREATER SAFETY AND PERFORMANCE

Know running speeds of grinding wheels, spindles, cutters, shafts, shuttles, pumps, fans—any rotating or reciprocating part. Reads constant or changing speeds. Requires no mechanical or electrical contact.

*MODEL 33A
0-3000 RPM
0-6000 RPM
0-12000 RPM

SEND FOR LITERATURE

DAYTON SAFETY

DAYTON SAFETY GRINDING WHEEL DIVISION
SIMONDS WORDEN WHITE COMPANY
1101 NEGLEY PLACE
DAYTON 7, OHIO

For more details circle NED-1108 K1 on enclosed inquiry slip

The New, Improved MARK III MEGGER INSULATION TESTER

Important New features for a long time favorite

CONSTANT VOLTAGE

MEGOHM & OHM SCALES IN ONE INSTRUMENT

Voltage	Range
100 volt	0-20 megohms
250 volt	0-50 megohms
500 volt	0-100 megohms

Each of three models is also available with ohm scale of 0 to 10,000 ohms.

B110

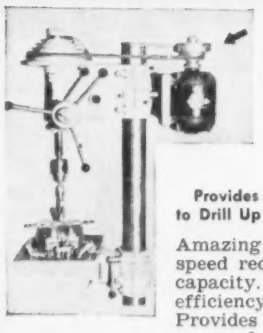
Write for Bulletin 21-85-D

BIDDLE INSTRUMENTS

JAMES G. BIDDLE CO.
Electrical & Speed Measuring Instruments
1316 ARCH STREET • PHILADELPHIA 7, PA.

For more details circle NED-1109 K1 on enclosed inquiry slip

New "PULL-GEAR" SPEED-REDUCING PULLEY
Increases Drill Press Capacity



Provides Correct Speed and Power to Drill Up to 1 3/8" with 1/2 H.P. Motor

Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity. Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approx. 45 to 3000 RPM. Made in 3 motor shaft sizes: 1/2"-5/8"-3/4". Write for literature.

THE PULL-GEAR CO.
13523 E. Eight Mile Rd.
Warren, Mich.

WRITE FOR LITERATURE

DEALERS: Chicago, Ill.—Chicago Supply & Tool Co.
Cleveland, Ohio—Reynolds Machinery Co.
Los Angeles, Calif.—Almquist Brothers
New York City—Rudolph Bass

For more details circle NED-1110 K1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Inventory Control Techniques

Practical inventory control methods which can be adapted to the operation of any business are presented in 116-page text compiled from lectures, articles, and speeches of R. L. VanDeMark. Topics include lot-size benefits, fewer shortages and excesses, control without records, a quicker physical inventory, and cycle counting. Available for $4.75 per copy from **VanDeMark Inc.**, Box 120, St. Clair, Mich.

For more details circle NED-1111 K1 on enclosed inquiry slip

Automatic Heating Controls

FREE General Controls Co.—98-page Catalog 608.426 on line of automatic heating controls introduces the Sheer line of room thermostats which provide fixed or adjustable heat anticipation, in 24-v, millivolt, or line voltage models. Midgitrol line of compact gas valves, also presented, is offered with 24-v, millivolt, solenoid, or bulb and capillary operators. Switching mechanisms and time delay relays are also discussed.

For more details circle NED-1112 K1 on enclosed inquiry slip

Heating & Ventilating Units

FREE Carrier Air Conditioning Co.—32-page engineering Catalog 30-C-45 on large heating and ventilating units and heat diffusers provides selection charts for steam and hot water coil capacities, fan-motor ratings, and dimensional data for all models and sizes. Units are rated from 47,000 to 2,990,000 Btu with air capacities of 1500 to 32,000 cfm.

For more details circle NED-1113 K1 on enclosed inquiry slip

O-Ring Drawing Template

Pocket size, semi-opaque plastic template aids drawing of O-rings and O-ring groove cross sections. Cutouts are in actual, two and four-time sizes. Dimensional and tolerance information is provided as well. Available for $1 from **Parker Seal Co.**, 10567 Jefferson Blvd., Culver City, Calif.

For more details circle NED-1114 K1 on enclosed inquiry slip

Pump Fundamentals

FREE Gould Pumps, Inc.—Nontechnical 16-page booklet "Pump Fundamentals" provides an elementary outline of characteristics, operation, and selection of reciprocating, rotary, and centrifugal pumps. Definitions, basic formulas, examples, and other data pertinent to pumps are included.

For more details circle NED-1115 K1 on enclosed inquiry slip

Wire Rope Conveyors

FREE Hewitt-Robins, Inc.—Wire rope conveyors for above and below ground use are covered in 24-page Bulletin 173. Conveyors are made with modular components which permit up to 4300 variations of head ends alone. They exceed 4000 ft in length and range in capacities up to 3500 lb.

For more details circle NED-1116 K1 on enclosed inquiry slip

Metallized Ceramics

FREE American Lava Corp.—Several metallizing processes involving the use of ceramics and ceramic-metal combinations are explained in 16-page Bulletin 612. Information deals with Alsimag Steatite and alumina products in both active metal and refractory metal powder methods.

For more details circle NED-1117 K1 on enclosed inquiry slip

V-Band Coupling

FREE Aeroquip Corp., Marman Div.—Specific cost comparisons between V-bands and other joining methods are given in 16-page booklet SDP-2 entitled "Economics of the V-Band Coupling." Use of V-bands eliminates need for special flanges, welding, or rolling or forming of flanges on containers.

For more details circle NED-1118 K1 on enclosed inquiry slip

Selecting Pressure-Sensitive Tapes

FREE Johns-Manville, Dutch Brand Div.—"How to Select a Pressure-Sensitive Tape" is title of 4-page Form DB-56A which tells how tapes are constructed and the factors involved in selection. The complete line of Dutch Brand pressure-sensitive tapes is included.

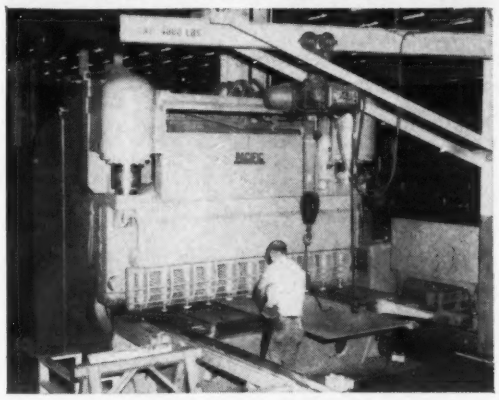
For more details circle NED-1119 K1 on enclosed inquiry slip

Corrugated Tolerance Rings

FREE Roller Bearing Co. of America—Dimensional data and capacities of Star tolerance rings are tabulated in 18-page brochure. Ring is a corrugated, open ring of hardened steel, with straight rims at the ends of the corrugations. It serves as a wedging shim between two cylindrical members.

For more details circle NED-1120 K1 on enclosed inquiry slip

HEAVY PLATE SHEAR CUTS LIGHT METAL WITH MINIMUM BOW AND TWIST



By a simple 1 minute adjustment, the rake angle of this massive 1½" shear at Caterpillar Tractor Co., Joliet, Ill., is set to cut thin sheet with minimum bow and twist. With similarly rapid adjustment of the knife clearance, the Pacific shear cuts a complete range of metals from light sheet to 1" plate to any accuracy of .030" over the entire 10 ft. bed length. Shorter pieces over 1" thick are cut to .125" accuracy. In any plant, large or small, an adjustable rake Pacific hydraulic shear replaces 2 or 3 conventional shears by cutting both light and heavy metals with equal accuracy, safety, speed.

Write for brochure.

PACIFIC PRESSES & SHEARS
848 - 49TH AVE., OAKLAND, CALIF.: also MT. CARMEL, ILL.

For more details circle NED-1121 K1 on enclosed inquiry slip

Large, Stainless Steel ROLLS and Cylinders, made to your exact requirements

Let us make your stainless, wood and special rolls and cylinders. Send for catalog B-22 today.

ROBERT A. MAIN & SONS, INC.
Main St. & New St., Wyckoff, N. J. Phone: TWinbrook 1-2010

For more details circle NED-1122 K1 on enclosed inquiry slip

instant breathing protection in emergencies with

New M-S-A® Air Escape Mask

- self-contained—gives five minutes of protection for escape from any contaminated atmosphere
- easy to operate—wearer merely puts mouthpiece in mouth, nosepiece on nose and breathes normally
- comfortable to wear—total weight of eight pounds is well distributed by nylon waist and shoulder strap

Write for detailed product bulletin.

MSA MINE SAFETY APPLIANCES COMPANY
Pittsburgh 8, Pennsylvania

For more details circle NED-1123 K1 on enclosed inquiry slip

YOU CAN'T GO WRONG WITH VibraTONES

Signals save time and money—they can also save lives and property

VIBRATONES are the 1961 version of the well-known vibratory industrial horn—
they call people—signify start and dismissal—
or can be used as quick, simple warnings.
Simple accessories provide for interior or exterior use;
purely utilitarian for the factory,
or actually decorative in the office.
The flexibility and adaptability of the FEDERAL VIBRATONE is unmatched in the industrial signalling field!

FEDERAL Bulletin #105 describes the VIBRATONES and their uses—write for it TODAY!

FEDERAL SIGN and SIGNAL Corporation 13611 S. Western Ave. Blue Island, Ill.

▲ For more details circle NED-1124 K1 on enclosed inquiry slip ▲

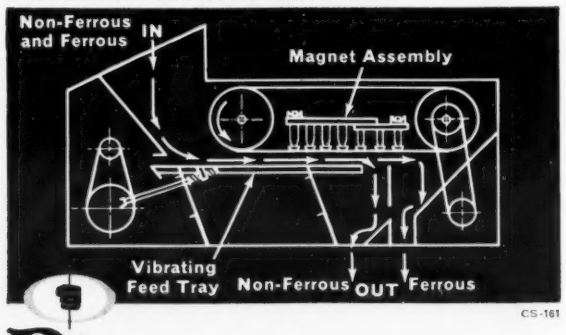
The Daily Paper

TOP PRICES FOR NON-FERROUS SCRAP

Get iron free separation fast and easy with . . .

DINGS MAGNETIC CHIP SEPARATOR

Be certain your brass chips or other non-ferrous products are free of iron. Seven permanent magnets insure the dependability of the type BNA Dings Magnetic Chip Separator. Unique agitating principle separates even the smallest particles. Constant magnetic power requires no electricity. Simply charge the hopper, start the belt, separation is fast, fully automatic. ***Send for Bulletin B-1604.***



Dings MAGNETIC SEPARATOR COMPANY 4758 W. Electric Ave., Milwaukee 46, Wis.

▲ For more details circle NED-1125 K1 on enclosed inquiry slip ▲

TWO NEW VALVE SERIES FOR HOT AND COLD SERVICE

1078V SERIES. A small, compact, piston-actuated valve, designed for hot and cold service up to 400 psi and 400°F. Ductile iron body and spider give added strength, low coefficient of expansion. Simple design with minimum of parts. Sizes 1", 1¼", 1½". **Bulletin 98419.**

1000V SERIES. Features exclusive reversible actuators for "air-to-open" or "air-to-close" service. For hot or cold service to 200 psi; cold service only to 400 psi. Bronze body with choice of Monel seat and disc, or stainless steel bevel plug and seat of 500 Brinell hardness. Actuator springs completely enclosed, diaphragms of Neoprene reinforced with Nylon. Provides low-cost, pneumatic control for "on-off" service. **Bulletin 98417.** Taylor Instrument Companies, Rochester, New York, or Toronto, Ontario.

Taylor Instruments **MEAN ACCURACY FIRST**

▲ For more details circle NED-1126 K1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

EPOXY ADHESIVE mixes for low heat distortion

Two-component epoxy adhesive EA-40, when mixed in a ratio of two parts of A to one part of B, achieves a heat distortion resistance point of 217° F without significant loss of other properties. Mixed one-to-one, the amber material hardens at room temperature. This standard ratio provides properties of high shear and flexural adhesion. Compound is a soft gel for easy application in thin films, yet it will adhere to 10-mil thickness on vertical surfaces without sagging. • **Smooth-On Mfg. Co.,** 570 Communipaw Ave., Jersey City 4, N. J.

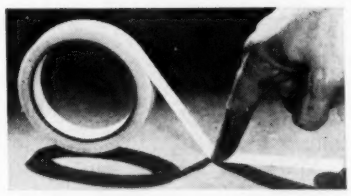
▲ For more details circle NED-1127 K1 on enclosed inquiry slip ▲

POLYURETHANE COATING now pigmented in several colors

Imron clear polyurethane floor finish (*NED, May* '61) is now available pigmented in gray, light green, ivory, yellow, and black colors. Coating can be applied to properly prepared wood, masonry, concrete and metal surfaces and reportedly withstands the abrasion from the tires of large handling vehicles. It is intended for protection of floors, structures, and equipment subjected to constant abrasion or to fumes, splashes, and spills of alkalies, dilute acids, and industrial solvents. The high-gloss coating also prevents accumulation of oil, lint, and other foreign matter, yet presents no slipping hazard. It is packaged in 1 and 5-gal two-compartment containers. Applied by brush or spray, finish covers 410 to 435 sq ft per gal, forming a film 2 mils thick. • **E. I. du Pont de Nemours & Co.,** Wilmington 98, Del.

▲ For more details circle NED-1128 K1 on enclosed inquiry slip ▲

PRESSURE SENSITIVE TAPE affords good electrical properties



Exceptional weatherability, toughness, chemical resistance, and good electrical properties are provided by Temp-R-Tape PVF, a pressure sensitive polyvinyl fluoride tape. Made of Du Pont Tedlar PVF film with silicone polymer adhesive on one side, tape is offered in rolls for use as electrical insulation, protective covering, or release surface. Evaluation samples in 1-in. by 5-yd rolls are available. • **Connecticut Hard Rubber Co.,** 407 East St., New Haven 9, Conn.

▲ For more details circle NED-1129 K1 on enclosed inquiry slip ▲

UNLIMITED COMBINATIONS offer custom design without custom cost!

With the new MODULITE SYSTEM you can tailor your work stations exactly as you want them by specifying different sizes of doors and drawers, shelves, risers . . . provide for abundant electrical outlets . . . even have mobile units on casters . . . and a choice of three work surfaces including plastic laminates.

YOU PLAN THEM—WE ASSEMBLE!

There is no end to the possible "MODULITE" combinations to provide for any job need. You specify the arrangement—we ship the units 100% assembled, ready for immediate use.

REQUEST THE FACT-FILLED, "MODULITE" FILE FOLDER

STURDILITE PRODUCTS, INC. 3001 Palmolive Building, Chicago 11, Illinois

▲ For more details circle NED-1130 K1 on enclosed inquiry slip ▲

HOBBS HOUR METERS GIVE THE REAL FACTS OF INDUSTRIAL TOOL USE AND MAINTENANCE

Hobbs Industrial Hour Meters provide continuous supervision of the running time of industrial machines . . . eliminating errors and deficiencies for maximum production. These elapsed time indicators tell when servicing is due . . . indicate the costs of running hour for both the machine and occupied space.

Hobbs Industrial Hour Meters make it easy to determine the life and repair costs per running hour of industrial machines . . . the actual running time of leased equipment and equipment to be sold. They set up a sound basis for service contracts. For complete information

WRITE FOR CATALOG 600
Distributors in Principal Cities

John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2055 YALE BLVD. SPRINGFIELD, ILLINOIS

▲ For more details circle NED-1131 K1 on enclosed inquiry slip ▲

Complete Guide for Soldering Fluxes— Make it Lake!

First of all, you can be sure Lake makes it. The standard LA-CO Fluxes include such specialized types as: Regular Flux; Silver Solder Flux; Stainless Steel and Chrome Flux; Aluminum Flux; Electro Flux. All use standard solders and methods—allow the mechanic to fabricate *any* metal with ease. Lake can handle any special fluxing needs, too, with experience and facilities that are second to none.

Best of all, LA-CO Fluxes have always set the pace. They're all acid-free and practically work-free. They go farther, go to work faster, and make the final joint as strong as the solder itself. Available in paste, liquid and handy stick form.

Sensational example of LA-CO leadership is the new Aluminum Flux, which permits soldering aluminum with ordinary soft solders.

They're all here! Write for Bulletin 113

LA-CO **The LAKE CHEMICAL COMPANY** 3053 W. Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-1132 K1 on enclosed inquiry slip ▲

NEW DEWALT IDEAS BUILD NEW PROFITS!

Does new jobs... no extra cost!

DEWALT reduces your investment 60% or more. It does the work... saves the cost and space... of *many* power tools. Use coupon for free copy of new DeWalt IDEA BOOK.

DEWALT, Inc., Dept. NE-1061 Lancaster, Pa.
Please send free DeWalt IDEA BOOK.

Name_____

Address_____

City_____ State_____

Custom-built by DEWALT, Inc., A *Black & Decker* SUBSIDIARY

▲ For more details circle NED-1133 K1 on enclosed inquiry slip ▲

Biggest News in Protective Coatings Since 1942...

AMERCOAT No. 99

Amercoat No. 99 offers the time tested protection of vinyl coatings plus virtually foolproof application with cost reductions of up to 42%!*

For application with either airless spray or conventional spray equipment, No. 99 is a companion coating to Amercoat No. 33, the *first* practical vinyl maintenance coating. Introduced in 1942, No. 33 is...after 18 years...still protecting more than 200 million square feet of steel structures in the severest corrosive environments. And now, through exclusive Amercoat technological developments, you can have the proven protection of No. 33 PLUS the cost-cutting advantages of No. 99.

- Highest solids content of non-mastic vinyls
- Applied by airless spray, one cross sprayed coat easily produces a dry film thickness of 6 mils
- Applied with conventional spray equipment, dry film thickness of 5 mils is obtained with just two coats
- Labor savings of more than 50% have been reported, with material costs cut 35%
- Can be applied directly over Dimetcote, giving a two coat system unequalled by any comparable system
- Recommended for use on all types of structural steel, tank exteriors and ships' hulls

You may obtain complete technical data including a cost analysis showing savings you can realize with this coating by writing to Amercoat Corporation, 4809 Firestone Boulevard, South Gate, California.

*Documented user report furnished on request

Amercoat CORPORATION 128B — Dept. ZV, 4809 Firestone Boulevard South Gate, California

921 Pitner Ave. Evanston, Ill. · 360 Carnegie Ave. Kenilworth, N.J. · 111 Colgate Buffalo, N.Y. · 2404 Dennis St. Jacksonville, Fla. · 6530 Supply Row Houston, Tex.

For more details circle NED-1134 K1 on enclosed inquiry slip

LEADING TEXTILE COMPANY

Announces Development

OF

DISPOSABLE CLOTH TOWELS

YOU ARE INVITED TO TRY ONE OR ALL STYLES DESIGNED FOR

HAND TOWELS WIPING · POLISHING DUSTING

RSVP FOR SAMPLES & INFORMATION

CHICOPEE MILLS, INC.
47 WORTH ST., N. Y. 13, N. Y.

For more details circle NED-1135 K1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Industrial Retaining Rings

FREE Industrial Retaining Ring Co.—Available literature includes 24-page Catalog 61 with dimensional data and specifications on company's entire line of industrial retaining rings. Supplementary 24-page Price List 61 shows price reductions as much as 51 per cent through the entire retaining ring line. Information is also provided on new wire stacking, as well as conventional rod stacking of rings.

For more details circle NED-1137 K1 on enclosed inquiry slip

Pneumatic Hose Couplings

FREE Stile-Craft Manufacturers, Inc., Dyna-Quip Div.—Size tabulations provided in 20-page brochure on industrial air-hose couplings cover Dyna-Con valve couplers, Dyna-Matic automatic couplers for frequent quick-connection, Dyna-Twist ball-type couplers, and Dyna-Quip ball-type couplers applicable for semiautomatic service. The Dyna-Con unit works as a coupling and as a three-way valve.

For more details circle NED-1138 K1 on enclosed inquiry slip

Emergency Lighting Equipment

FREE Electric Storage Battery Co., Exide Industrial Marketing Div. — Automatic battery-powered Lightguard emergency lighting units reviewed in 8-page Handbook 6527 provide emergency lighting if normal electrical power fails. Booklet suggests methods for providing emergency lighting in two adjacent areas, in stairwells, and in several rooms by means of a single Lightguard unit equipped with remotely connected lamps.

For more details circle NED-1139 K1 on enclosed inquiry slip

Pallet Loaders & Unloaders

FREE FMC Corp., FMC Materials Handling Systems—Five basic pallet loader and unloader models are described as to construction and design features and operation in 20-page general Catalog MH 200. Covered are a lock-load palletizer for cases, cartons, and bales; a drum loader and a pallet dispenser for drums, kegs, and pails; a pallet loader for cases and cartons; and a combination pallet loader-unloader and a high speed pallet loader-unloader for cases and cartons.

For more details circle NED-1140 K1 on enclosed inquiry slip

Wheel Blower Fans

FREE American-Standard Industrial Div.—48-page Bulletin A1401 discusses Sirocco blower fans in terms of construction features, operation, drive arrangements, control methods, and types of drive. Capacity tables are provided for line of 15 sizes of single-inlet single-width designs and 12 sizes of double-inlet double-width designs. Series 81, Class I and II fans provide maximum duty ratings of 3¾ and 6¾ in. total pressure, respectively, with wheel peripheral velocities of 5000 and 7000 fpm.

For more details circle NED-1141 K1 on enclosed inquiry slip

Bin Stuck Lately?

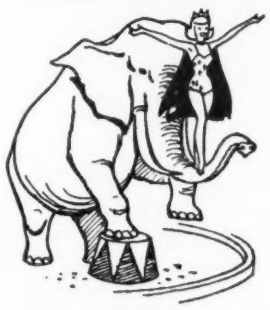
Here's quality and economy in two popular Cleveland Air Vibrators . . . Model F and Model KO.

Easily demountable, these vibrators speed the flow of dry materials in bins and hoppers—give users continuous, trouble-free performance.

Send now for complete application information and performance data.

THE CLEVELAND VIBRATOR CO.
2744-10 Clinton Ave. • CLEVELAND 13, OHIO

For more details circle NED-1143 K1 on enclosed inquiry slip



JUMBOS

O.K. in a circus but no good in your lapping compound

Off-size diamond particles don't belong in lapping compound. "Jumbos" stick up above the others, try to take all the work (and sometimes do damage). "Fines" just lay low and do nothing. "Slim Jims" and "blades" gouge and scratch. For fast, smooth action, you can't beat new Trulap® Diamond Compound. Every gram is laboratory made from blocky-shaped diamond particles of uniform size, evenly dispersed in the paste to give you uniform lapping action and top mileage because EVERY particle is working, and because it contains Granulaide* for extra long, effective action. Trulap offers industry the widest range of accurately sized diamond particles and in dispensers from 2½ gr. up.

*T.M. OF W.T.T. CO. FOR ITS SURFACTANT.

TRULAP — WHEEL TRUEING TOOL COMPANY
238-3200 W. Davidson, Detroit 38, Mich.
575 Langlois Ave., Windsor, Ont., Canada

A research development of Wheel Trueing Tool Company. Over 50 years a leader in diamond products.

For more details circle NED-1144 K1 on enclosed inquiry slip

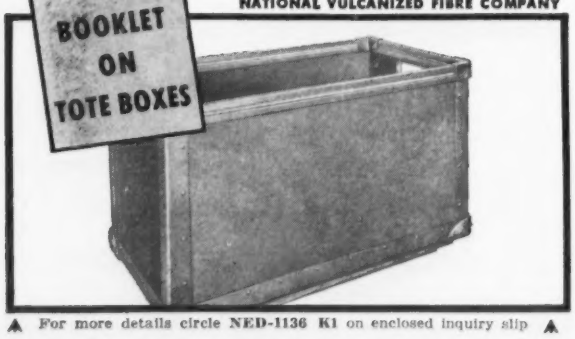
KENNETT TOTE BOXES

WORK HARDER • LAST LONGER

. . . ideal for any parts handling job in your plant, from small fragile components to larger raw-edge castings. Smooth, oil-resistant Kennett equipment has the strength to take it, the resilience to protect it.

FREE BOOKLET ON TOTE BOXES! For full information on this hard-working tote-box line, write Dept. A-10, Wilmington 99, Delaware.

NVF — KENNETT DIVISION NATIONAL VULCANIZED FIBRE COMPANY



For more details circle NED-1136 K1 on enclosed inquiry slip

KENNETT TRUCKS

MADE TO ORDER • LAST LONGER

Vulcanized Fibre is the light-weight, high strength plastic that gives Kennett trucks the ability to "take it." Regular or heavy duty models designed to meet every materials handling need.

FREE BOOKLET ON TRUCKS! For full data on this versatile truck line write Department A-10, Wilmington 99, Delaware.

NVF — KENNETT DIVISION NATIONAL VULCANIZED FIBRE COMPANY

For more details circle NED-1142 K1 on enclosed inquiry slip

KENNETT TRAYS

LIGHT OR HEAVY DUTY • NEST NEATLY

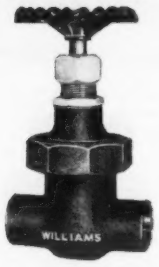
Modified from a standard line to fit your specific needs . . . smooth, grease-resistant Kennett Trays are available in a wide variety of styles, weights and sizes . . . even new Pyronil fire-resistant Vulcanized Fibre.

FREE BOOKLET ON TRAYS! Choose just the right tray for your job from a broad line of tray equipment. Write Dept. A-10, Wilmington 99, Delaware.

NVF — KENNETT DIVISION NATIONAL VULCANIZED FIBRE COMPANY

For more details circle NED-1145 K1 on enclosed inquiry slip

Value Valves



Three new D. T. Williams value valves have just been introduced by ASCD. All have 150-pound ratings and sweat connections. Two are rising stem gate valves with solid or double bronze discs; the third has a non-rising stem and a solid disc. Sizes range from 3/8 to 3 inch. Write American-Standard Controls Division, 5900 Trumbull Ave., Detroit 8, Michigan.

AMERICAN-Standard CONTROLS DIVISION

For more details circle **NED-1146 K1** on enclosed inquiry slip

NEW...
A POSITIVE SEALER FOR ALL GASKETS

SEAL-LAST Gasket Compound

Hard-Set or Soft-Set Types—available in handy 1½-oz., 3-oz. and 11-oz. tubes

. . . for newly installed gaskets . . . for repairing broken gaskets . . . to build up damaged, warped or misaligned surfaces . . . *or even as a gasket substitute!*

SEAL-LAST can be used with all water and petroleum based fluids and gases plus most chemicals including mild corrosives. It takes pressures to 5000 psi . . . temperatures from −65° F. to +400° F.

Use *Soft Set* SEAL-LAST where frequent dismantling is required . . . *Hard Set* SEAL-LAST for permanently installed gaskets.

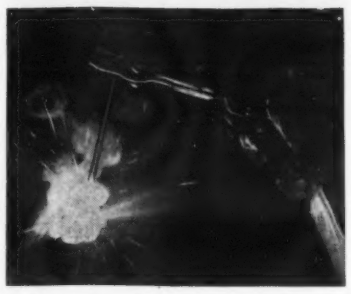
Be convinced—write for sample tube

John Crane CRANE PACKING COMPANY
6411 Oakton St., Morton Grove, Ill. (Chicago Suburb)
In Canada: Crane Packing Company, Ltd., P.O. Box 134, Station C, Hamilton, Ont.

For more details circle **NED-1147 K1** on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

TUNGSTEN CARBIDE ARC ROD
assures smooth hard facing jobs



Improved hard facing operations, particularly on large pieces where gas application is not practical, is assured by solid-core Kenface Arc Rod KT-200. Rod is composed of solid tungsten carbide core surrounded by a steel sheath with a coating that permits depositing a hard surface as smooth as that applied by a mild steel welding rod. It is suitable for either bead or wash pass application and can be applied by either ac or dc reverse polarity current (160-200 amp, 16-20 v). Deposit hardness ranges from 58 to 65 Rockwell C. Coverage at 1/8-in. thickness is 25 sq in. per pound of rod. • **Kennametal Inc.**, Lloyd Avenue, Latrobe, Pa.

For more details circle **NED-1149 K1** on enclosed inquiry slip

ZINC BRIGHTENER
offered in power and liquid forms

Econobrite zinc brightener is a one-step product for use in automatic barrel plating equipment. It allows a broad latitude of operating conditions, being usable over a range of temperature, contamination, and concentration variations. Product will not break down when used at higher than normal temperatures and is available in powder and liquid forms. • **R. O. Hull & Co.**, 1260 Marion Court, Cleveland 16, Ohio.

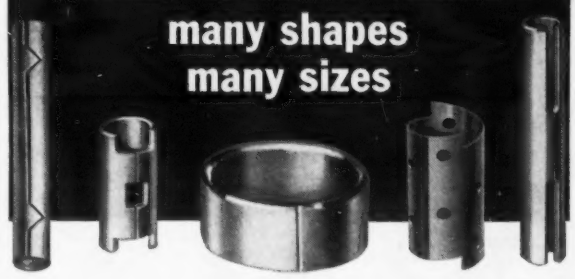
For more details circle **NED-1150 K1** on enclosed inquiry slip

SPIRAL TEFLON TUBING
made in 1/2 to 3-in. diameters

Freedom from interior and exterior deterioration, corrosion, and contamination at temperatures from −100 to 500° F is obtained from use of Fluoroflex-T spiral tubing. A seamless flexible conduit made of Teflon, it is suitable for low pressure flexible connection and transfer problems when used in vent lines, pipe connections, fume ducts, and electrical conduits. Lengths up to 10 ft are available in diameters from 1/2 to 3 in. Sizes to 6 in. will be offered. Straight tubular ends suitable for clamping or lap joint ends and lightweight flanges are standard. • **Resistoflex Corp.**, Roseland, N. J.

For more details circle **NED-1151 K1** on enclosed inquiry slip

FORMED SPACER TUBES...
many shapes many sizes



. . . at a saving over pipe and tubing!

Made from any formable metal—mild steel, copper, brass, bronze, aluminum, stainless steel.

Plating or finishing of any standard type—copper, zinc, nickel, cadmium, Parkerizing, Dulite.

Available in special shapes, tapers, seams, locks, and with ball indents for oil pockets . . . can be supplied copper-brazed to other components, and with copper-brazed seams. For free catalog, write to Federal-Mogul Division, 11079 Shoemaker, Detroit 13, Mich.

FEDERAL Mogul

FEDERAL-MOGUL sleeve bearings bushings spacers thrust washers — DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

For more details circle **NED-1152 K1** on enclosed inquiry slip

New Way to Stop Faucet Leaks!

★ **9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!**

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ **New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.**

★ **NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.**

★ **Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!**

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-101
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title _____
Organization _____
Bus. Address _____
City _____ Zone _____ State _____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle **NED-1153 K1** on enclosed inquiry slip

Johnson SETS the PACE!

Only Johnson Dares Offer So Much Saw For So Little Money!

Why? Because Johnson specializes *only* in the design and manufacture of the world's finest quality metal cutting machines—at the lowest possible price. That's why every Johnson saw is functionally designed, well-engineered—yet a machine that will stand up to those really tough, around-the-clock metal cutting operations and save your production dollars along the way.

One Johnson saw—or a battery of them—will pay for themselves in time, labor and the elimination of scrap. Why not prove it to yourself by writing Johnson today?

Model J Heavy Duty Band Saw (Wet or Dry)

- Large Capacity
- Versatility
- Variable Speeds
- Lower Cost
- Semi-Portability
- 3-Point Suspension
- Operational Safety
- Absolute Accuracy
- Centralized Controls

ASK THE MAN WHO HAS ONE!

FREE FACTS . . .
Complete illustrated literature, specifications and amazingly low prices are yours for the asking. Write, wire or phone today for a quick reply.

Johnson MANUFACTURING CORPORATION
Barnes & Taylor Sts., Albion, Michigan

Eastern Distributor
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East Orange, N. J.

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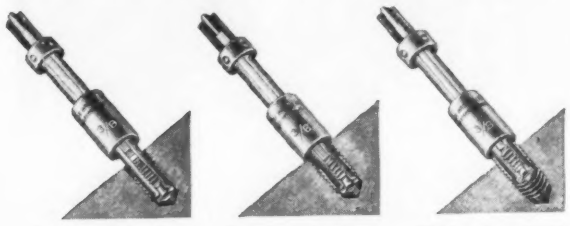
W. Q. LUNDMARK
75 N. Broadway
Des Plaines, Ill.

Western Distributor
HASTINGS DISTRIBUTORS
1605 Solano Avenue
Berkeley, Calif.

For more details circle **NED-1148 K1** on enclosed inquiry slip

A Specialized Tap Extracting Tool *that will stop small cost leaks in Metalworking*

How much labor and production time do you waste removing broken taps? How many expensive parts are damaged or scrapped by makeshift methods? Much of this time, and the parts, can be salvaged with Walton Tap Extractors.



The extractor's sturdy, heat treated steel fingers are inserted into the flutes of the broken tap.

The extractor is pushed down until it touches the broken tap, and the sleeve placed firmly in contact with the work.

With a tap wrench (not shown) applied to the square end of the extractor, the broken tap is simply and easily backed out.

No annealing or drilling required. The broken tap is removed without delay . . . . *and without damaging the threads.* Furnished for machine screw and hand taps, pipe taps, and Helical Coil "STI" taps in all standard flute styles for sizes #4 to 1½". Try them at our expense (free trial) in your shop.

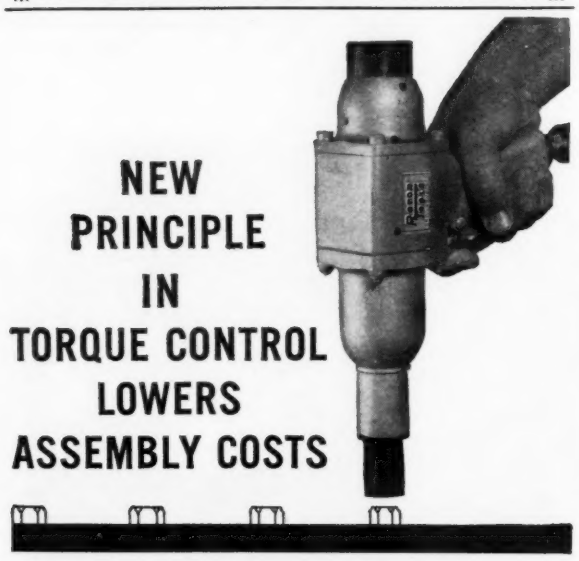
Write for Data *Folder No. 26*

WALTON TOOLS HARTFORD, CONN. SINCE 1908

THE WALTON CO. HARTFORD 10, CONN.

▲ For more details circle NED-1154 K1 on enclosed inquiry slip ▲

NEW PRINCIPLE IN TORQUE CONTROL LOWERS ASSEMBLY COSTS



Rotor announces J-42T torque control air impact wrench with new hydraulic amplifier

● **NEW** unique hydraulic amplifier shuts off tool at desired torque. This exclusive device results in... ● **FASTER** rundown and impacting speed. Cuts job time. ● **MORE ACCURATE** torque control with uniform results. Quick, easy adjustment ...tamperproof. ● **ASK FOR DEMONSTRATION** of the J-42T to see how this outstanding development can cut costs on your assembly line. Write The Rotor Tool Co., 26342 Lakeland Blvd., Cleveland 32, Ohio. Subsidiary of The Cooper-Bessemer Corp.

ROTOR TOOLS

▲ For more details circle NED-1155 K1 on enclosed inquiry slip ▲

PLASTIC FOAMS

Polyurethane • Polyethylene

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More and more manufacturers are discovering how plastic foams can improve product design, increase product appeal and lower product costs.

Foamade Industries is much more than a fabricator. It engineers parts to specific application and supplies foams to you tailor-made for your specialized needs.

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Address _____ Zone ____ State ____
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Signature _____

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NEW LITERATURE and CATALOGS

Sheet Metal Products

FREE Lyon Metal Products, Inc.—"Craftsmen in Sheet Metal" is title of 20-page brochure that tells graphically what happens from the blueprint stage to the finished product in making metal consoles, shop desks, small parts cabinets, and racks. Listed is equipment from the coil steel lines to finishing and shipping.

▲ For more details circle NED-1157 K1 on enclosed inquiry slip ▲

End Mills & Die Sinking Cutters

FREE Tomkins-Johnson Co.—Dimensional data are tabulated on company's entire line of end mills and die sinking cutters in 36-page Catalog 661. Numerical charts are provided to aid the metalworking engineer on his cutting problems. Covered are end mills, double-end mills, ball-nose and double-end ball-nose end mills, angle cutters, tapered end mills, router cutters, tapered shanks, and reamers.

▲ For more details circle NED-1158 K1 on enclosed inquiry slip ▲

Rod Ends & Spherical Bearings

FREE MPB, Inc., Split Ballbearing Div.—Expanded line of Alinabal rod ends and spherical bearings featured in 12-page Catalog 102 includes rod ends with up to 2-in. bores and control rod assemblies in six sizes. High static capacity and long bearing life under cyclic loading are principal benefits of the Alinabal design.

▲ For more details circle NED-1159 K1 on enclosed inquiry slip ▲

Pump Selector Guide

FREE Sumo Pumps, Inc.—"When You Buy Your Pump" is a guide to selection of pumps for water supply or booster service in industry and commercial buildings. It compares various types of pumps, including submersibles for deep well service.

▲ For more details circle NED-1160 K1 on enclosed inquiry slip ▲

Variable Speed Drive Belts

FREE T. B. Wood's Sons Co.—Tables giving an alphabetical listing of applications and a numerical listing of manufacturer's part number are featured in 20-page Bulletin 24103 on variable-speed belts. A third numerical listing, according to a new standardized numbering system, is also provided. Fourth and fifth tables deal with variable speed cross referencing.

▲ For more details circle NED-1161 K1 on enclosed inquiry slip ▲

Recessed Fluorescent Luminaires

FREE Westinghouse Electric Corp., Lighting Div.—Construction features and style combinations offered in Mark II Mainliner commercial recessed fluorescent luminaires are stressed in 10-page descriptive Booklet B-8235. Line meets modern lighting requirements by being unobtrusive, complimenting over-all design, yet delivering high illumination levels.

▲ For more details circle NED-1162 K1 on enclosed inquiry slip ▲

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PROTECT VACUUM SYSTEMS FROM .04 TO 1 TORR . . . WITH AN NRC MODEL 745 PROTECTOVAC

Now you can protect and control vacuum systems at any vacuum from 40 to 1,000 microns (.04 to 1 torr) with this compact, automatic-reset indicating controller.

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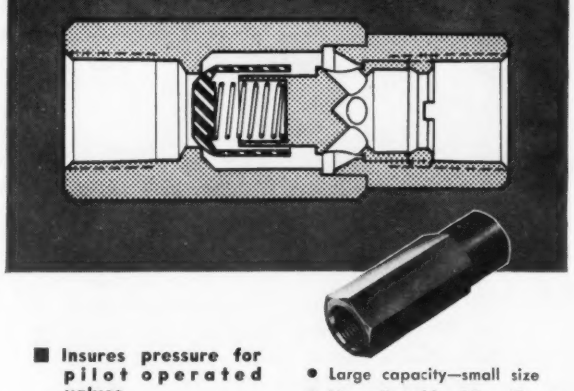
ECONOMICAL In-Line Relief Valves



- **Insures pressure for pilot operated valves**
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- Large capacity—small size
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- For oil to 3000 psi
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A LIGHT BUT RUGGED HAND TACHOMETER

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CONSTANT ACCURACY—± 1% full scale
THREE RANGES—changed with a flick of the switch
FOOL-PROOF READINGS—only the scale in use is visible
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ONE ROTATING PART—ball bearing-mounted; permanently lubricated.
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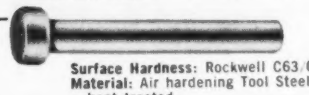
DURANT TOOL

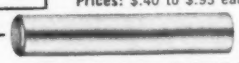
HEADED PINS...

Surface Hardness: Rockwell C58/60
Material: Tool Steel
Sizes: 109 Sizes in std. 2" lengths
Prices: $12.00 to $25.00 per C
Heads left soft
Extra long lengths — up to 6" — available



EJECTOR PINS... (Forged heads)

Surface Hardness: Rockwell C63/65
Material: Air hardening Tool Steel, heat treated
Sizes: 13 Body Dia., Head Dia. and Head Heights in 4" to 10" lengths
Prices: $.40 to $.95 each



MINI-DOWEL PINS...

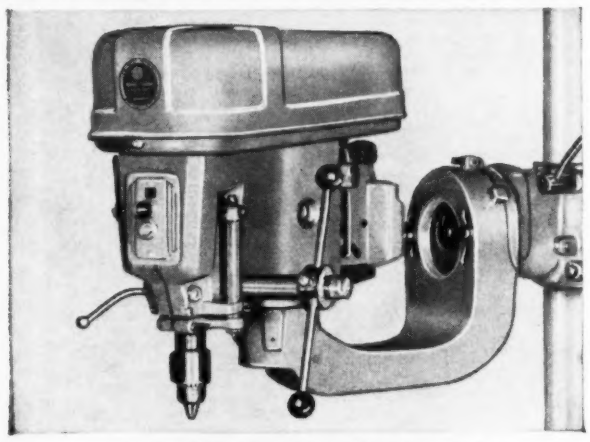
Surface Hardness: Rockwell 62/64
Core Hardness: Rockwell C47/53
Material: Heat Treated Alloy Steel
Single Shear Strength: 160—180,000 P.S.I.
Sizes: 3 diameters, 35 lengths
diameters .0002 over
Prices: $3.95 to $16.60 per C
Micro finish RMS 6

All Durant Pins are precision ground to close tolerances and honed to the finest surface finish. No pickup — uniformity guaranteed. Durant manufactures and stocks all types and sizes for immediate delivery in any quantity. They are available through our distributors or you may order direct.

Write for information on initial stock plan and for free folder, including prices and distributors in your area.

DURANT TOOL CO.
17 THURBERS AVENUE, Providence 5, Rhode Island

For more details circle **NED-1167 K1** on enclosed inquiry slip



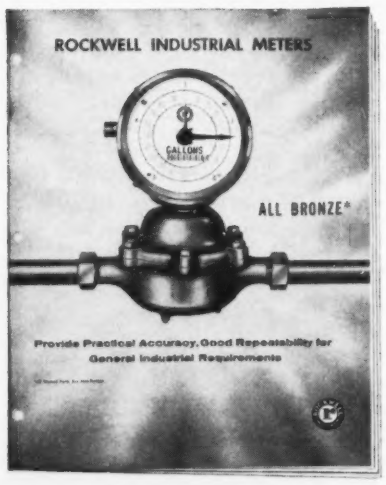
NEW UNIDRILL*

offers 5-way flexibility

With this Walker-Turner Unidrill you can position the cutting tool to the work in five different ways—move and tilt the drill head to do jobs faster, easier and at lower costs. It's a 2-foot arm radial drill press designed to handle problem drilling jobs conventional drill presses won't do. See your W-T Distributor (under MACHINE TOOLS or TOOLS in the Yellow Pages) for an action demonstration or write for FREE BROCHURE: Rockwell Manufacturing Company, Walker-Turner Division, Dept. WK-45, 400 N. Lexington Ave., Pittsburgh 8, Pa.
*Trademark

WALKER-TURNER "LIGHT-HEAVYWEIGHT" MACHINE TOOLS
another fine product by
ROCKWELL

For more details circle **NED-1168 K1** on enclosed inquiry slip



NEW!

Low Cost Meters

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INDUSTRIAL METERS
another fine product by
ROCKWELL

For more details circle **NED-1169 K1** on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

TWO-PART EPOXY CEMENT
applies ½-in. thick without sag

Silica-filled Sonite EG-2 is a nonmetallic, two-component epoxy cement which provides exceptional flexural strength together with abrasion resistance. It sets rapidly and has excellent electrical properties with negligible shrinkage. Application to ½-in. thickness on vertical surfaces will not sag. Part A of the compound is packed in a separate container which rides atop Part B. Ample room is provided in the lower container to mix both portions one-to-one. • **Smooth-On Mfg. Co.**, 572 Communipaw Ave., Jersey City, N. J.

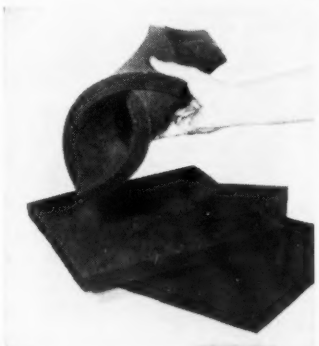
For more details circle **NED-1170 K1** on enclosed inquiry slip

TEFLON FELT
usable from −100 to 400° F

Teflon TFE-Fluorocarbon fiber felt, suited for filtration and other severe industrial applications, has high chemical resistance and withstands temperatures from below −100 to 400° F. Under certain conditions, it can be used to 600° F. Fine particle removal, high flow rates, and low pressure drops are realized in filtration use. Hydrophobic quality permits separation of water from many organic liquids incompatible with water. Low coefficient of friction allows its use in cushioning contact with moving parts. No known materials will adhere to Teflon fiber felts, available in widths up to 72 in. and lengths up to 60 yd. • **American Felt Co.**, 2 Glenville Rd., Glenville, Conn.

For more details circle **NED-1171 K1** on enclosed inquiry slip

SILICONE RUBBER FOAM
insulates thermally to over 600° F

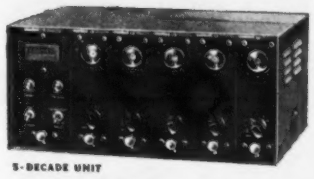


Light weight and temperature stability of Eccofoam SR silicone rubber foam suits it for use as a thermal insulator to over 600° F and as a thermal barrier. The flexible, compressible, dielectric material for microwave lens, absorbers, and the like is available in densities from 9 to 12 lb per cu ft. Standard 1-in. thick sheets measuring 1 x 2 ft are priced as low as $15.50 per sq ft. Special shapes and sizes are available. • **Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.

For more details circle **NED-1172 K1** on enclosed inquiry slip

accelerate production,

improve accuracy, cut costs with



Tally-COUNT®
electronic predetermining counter

Tally-COUNT automatically counts precise units into a container . . . determines exact footage from a roll . . . stops and recycles machine operations at preset counts, at electronic speeds.

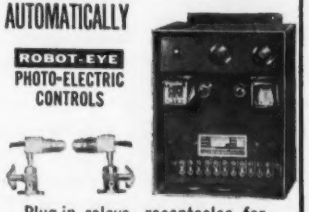
Tally-COUNT is actuated by external contacts or electronic impulses; control relay operates required mechanism: solenoid, motor, cut-off knife, etc.

Optional plug-in accessories: Batch Register, Photo-Electric Eyes, Footage Counters, Multiple Pre-Set Decades.

SPEEDS OPERATION
ELIMINATES GUESSWORK
BOOSTS PRODUCTION

Count, inspect, control production AUTOMATICALLY

ROBOT-EYE PHOTO-ELECTRIC CONTROLS



Plug-in relays, receptacles for plug-in connection of time delays, lamps and cells.

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657 BROADWAY, NEW YORK 12, N. Y.

For more details circle **NED-1174 K1** on enclosed inquiry slip

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"205" RECORDING GAUGE
another fine product by
ROCKWELL

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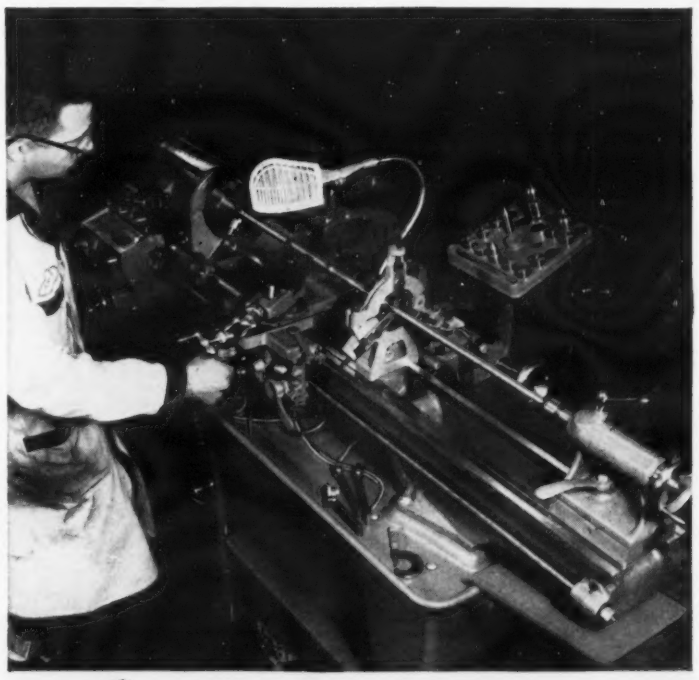

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DELTA'S
LONG BED LATHE

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AIR • DUST • FUMES • MATERIALS

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UN-A-LOK® LINER

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TELEPHONE LUdlow 3-1122 / TELETYPE LA 1315

For more details circle NED-1177 K1 on enclosed inquiry slip

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Powered Roof Ventilators
and
During Summer Obtain Positive
Exhaust With The Same Unit

IN WINTER IN SUMMER

ALL MODELS EQUIPPED with EXCLUSIVE DIVERTCO DAMPER FOR EASY AIR EXIT

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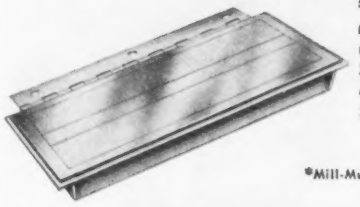
FAIL-PROOF PROTECTION AGAINST TRAMP IRON

with STEARNS INDOX V* permanent plate magnets



*Amazing *oriented ceramic* magnet material used exclusively by Stearns. Extremely high energy product — light in weight — low in cost.

*Mill-Mutual Approved

Job-proved in hundreds of process industries

If your process involves handling flowing material in chutes, spouts, ducts, or on conveyors, check the Stearns INDOX V plate magnet before you buy. Delivers the greatest protection, size for size, yet costs up to 20 percent less than ordinary plate magnets.

Available in standard sizes and strengths from 4 to 48 inches.

Call your local Stearns representative, or write for Bulletin 1074L.

STEARNS MAGNETIC PRODUCTS
DIVISION OF INDIANA GENERAL CORPORATION
635 South 28th Street • Milwaukee 46, Wisconsin

Profit with Stearns—First with Ceramic Magnet Separators for Industry

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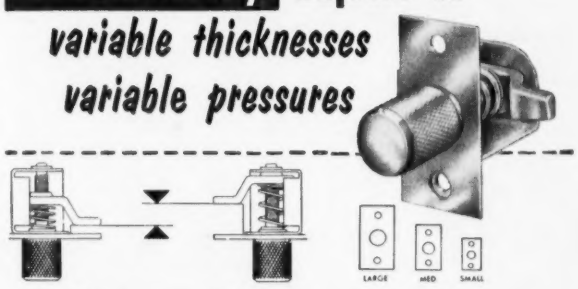
THIS DOOR FASTENER

...with the turn of a knob...

automatically adjusts to

variable thicknesses
variable pressures



with just a turn of the knob . . . thick or thin . . . as light or as tight as desired

Pre-assembled for fastest installation. Three standard body sizes with a choice of pawls covering a wide range of grip lengths.

Also available are left-hand models, fixed adjustable pawls and flush screwdriver-operated heads.

Write for full information. SOUTHCO DIVISION, SOUTH CHESTER CORPORATION, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS
LION

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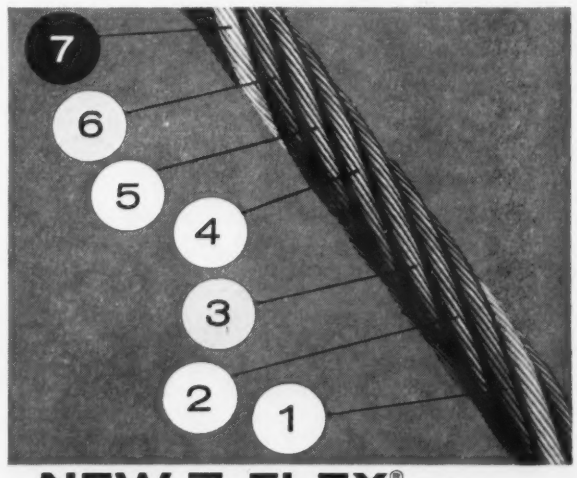

NEW 7-FLEX® makes
important savings on most wire-rope applications

All-new Macwhyte 7-strand rope is flexible as 8-strand — rugged as 6 x 19 — fatigue-resistant like 6 x 37. You'll get longer rope life, lower costs. Ask any Macwhyte distributor. Write for Bulletin 60100-R.

THE RIGHT MACWHYTE
349

MACWHYTE
Wire Rope **COMPANY**

2900 Fourteenth Avenue, Kenosha, Wis.
WIRE ROPE MANUFACTURING SPECIALISTS SINCE 1896

7-FLEX is a registered trademark of Macwhyte Company

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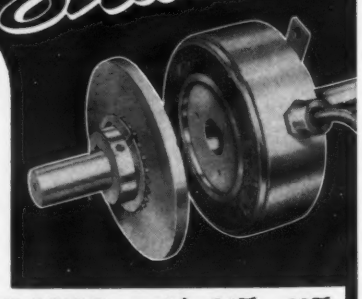
... another NEW product from Stearns



NOW AVAILABLE—
540 lb-in. Torque Miniature Clutch
Model 5.5
Style SMR*
Diameter—5⅝"
Depth—2¼"
Max. VDCW–115
Max. Watts—26
Weight—12 lb

MORE TORQUE PER POUND—weighs 24%—63% LESS . . . MORE TORQUE PER CUBIC INCH—occupies 19%—64% LESS cubic area . . . than other standard clutches of similar torque rating!

*Ball bearing mounted rotor, and stationary magnet body eliminate alignment problems—speed installations. For high torque, high speed, minimum size and weight requirements. Request Stearns New Product Preview No. 1-61-D.

Stearns ELECTRIC CORPORATION
120 NORTH BROADWAY
MILWAUKEE 2, WISCONSIN

SINCE 1917-THE CHOICE OF LEADING MOTOR AND MACHINERY MANUFACTURERS

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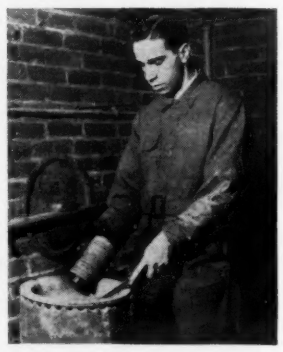
NEW-SAVE SOLDER—$$$

SLAGO recovers 95% of metal from Dross. It is used for tin, lead, zinc, cadmium, antimony, bismuth, etc.

SLAGO dissolves the Dross with a minimum of fine dirt.

SLAGO contains spirits of metal, revitalizes nonferrous metals, leaves clean silvery spider web appearance after washing action of SLAGO.



SLAGO is effective in preventing tin burn out in solders.

SLAGO is used by large Re-tinners, Railroads, Manufacturers, Electrotypers, Stereotypers, etc.

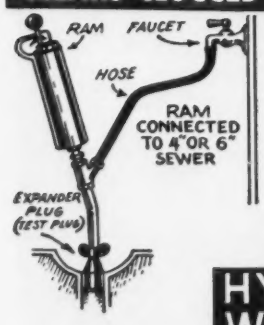
SLAGO saves money by recovering and revitalizing metal. It restores fluidity without sweetening. Special trial offer 6-1 lb. cans for $5.00 f.o.b. Philadelphia.

FARRELLOY COMPANY
1246 N. 26th St., Philadelphia 21, Pa.

Have you tried #1 Acid Brushes 25% more Hair, $3.60 per gross F.O.B.

For more details circle NED-1185 K1 on enclosed inquiry slip

CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, vent or no vent! Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, plus set of 5 tapered adaptor plugs for other drains or sewers.

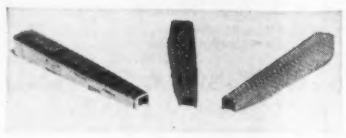
Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.
138-5 Hurd Avenue Bridgeport 4, Connecticut

For more details circle NED-1186 K1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

POLYURETHANE DIE MATERIAL
high elongation plastic forms metal blanks without marring



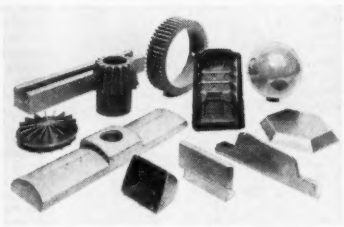
Highly finished, lithographed, plastic-coated, and embossed metal blanks are stamped without damage to their surfaces by female die blocks made of ElastaCast polyurethane. Material has low compressibility, but elongates as much as 600 per cent. As punch pushes blank into the plastic block, material displaces upward, pressing the blank face uniformly against the steel die and thus compensating for variation in blank gage.

Grades H-106, M-86, and L66 have respective durometer ratings of 95, 90, and 85 and tensile strengths of 4300, 5200, and 6500 psi. Grade H-106 forms up to 0.031-in. annealed steel and all gages of stainless steel. Grade M-85 forms up to 0.030-in. annealed steel and brass and aluminum above 0.047 in. Grade L66 handles nonferrous strip to 0.047 in.

Plastic in rod form is also being used to expand silver, copper, white metal, and steel shells and tubing into split dies. Representative sizes of rectangular and round stock are provided in two ElastaCast experimental kits—one for heavy forming and expansion and the other for light work. • **Standard Die Set Co.**, 1485 Elmwood Ave., Providence 7, R. I.

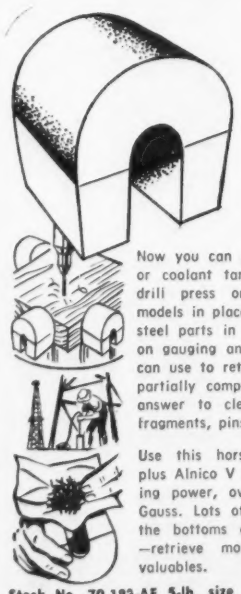
For more details circle NED-1187 K1 on enclosed inquiry slip

NYLON CASTING PROCESS
produces massive machinery parts



Large and complex nylon shapes for tools and dies, gears, bushings, cams, and other machinery components can now be made by monomer casting, a direct conversion process using MC nylon. Finished parts are produced from monomer rather than powders of nylon polymer, and casting is performed at atmospheric pressure. Castings of MC nylon now cost between $3 and $5 per pound, competing favorably with stainless steel, brass, or even alloy steel casting. Largest parts produced to date are semifinished symmetrical shapes weighing 500 to 700 lb. A steel casting of the same size would weigh over 2 tons. MC nylon is now available in stock shapes as tubular bar in 4-ft lengths and in plate up to 4 in. thick by 4 x 4-ft sections. • **Polymer Corp.**, 2120 Fairmont Ave., Reading, Pa.

For more details circle NED-1188 K1 on enclosed inquiry slip



GIANT WAR SURPLUS INDUSTRIAL MAGNET MIDGET PRICE!

ALNICO V—lifts over 125 lbs.
101 Uses:
over $40.00 Value

$9.95 POSTPAID

Now you can easily recover tools from dip or coolant tanks, hold work in place for drill press or grinding operations, hold models in place on layouts, and use to hold steel parts in place for welding, soldering, on gauging and aligning racks. Oil drillers can use to retrieve broken drill heads from partially completed wells. Also the perfect answer to cleaning shop floors of metal fragments, pins, etc. without taking up dirt.

Use this horseshoe-shape, 5-lb. war surplus Alnico V type Magnet—tremendous lifting power, over 125 lbs. Rated at 2,000 Gauss. Lots of fun, too—use for "fishing" the bottoms of lakes, rivers, ocean, etc. —retrieve motors, fishing tackle, metal valuables.

Stock No. 70,183-AE 5-lb. size .....$9.95 Postpaid
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EDMUND SCIENTIFIC CO., Barrington, N. J.

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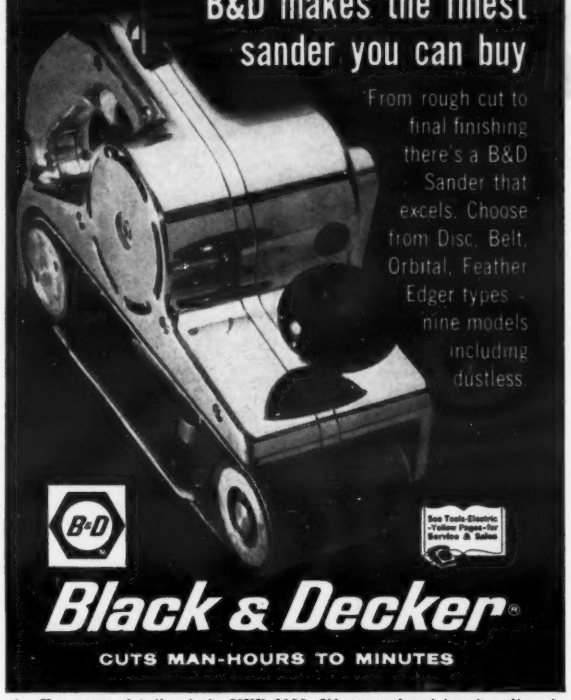
Whatever the SANDING job B&D makes the finest sander you can buy



From rough cut to final finishing there's a B&D Sander that excels. Choose from Disc, Belt, Orbital, Feather Edger types - nine models including dustless.

See Tools-Electric -Yellow Pages- for Service & Sales

Black & Decker®
CUTS MAN-HOURS TO MINUTES

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Certainly not! Just a careful buyer who insists on getting the most for his money. He's a veteran, skilled at sizing up a product —and the company behind it. He sees more Magliner Dock Boards in service . . . concludes they're built to last longer. Longer life figures up to lower cost so he buys *Magliners, the easy-handling magnesium dock board.* Do You?

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For more details circle NED-1191 K1 on enclosed inquiry slip

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FOR BROKEN CONCRETE FLOORS

TAMP SMOOTH! LET TRAFFIC ROLL!

TOUGH AS NAILS! FAST!

Repair broken factory floors without the usual traffic tie-up. Simply shovel INSTANT-USE into hole or rut—tamp smooth—truck over! No waiting! INSTANT-USE bonds tight to old concrete—right up to a feather edge. It's tough. Wears like iron. Won't crack or crumble. Install complete overlay where floors are badly chewed up. Used indoors or out. Immediate shipment. (No residential, please).

MAIL COUPON for FREE BROCHURE

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Please send me complete INSTANT-USE information and Free INSTANT-USE BROCHURE—no obligation. (Clip and attach Coupon to company letterhead.)

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Title .....
Company .....
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